

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF NEW YORK**

SECURITIES AND EXCHANGE
COMMISSION,

Plaintiff,

-v-

AT&T INC., CHRISTOPHER C. WOMACK,
KENT D. EVANS, and
MICHAEL J. BLACK,

Defendants.

No. 1:21-cv-01951-PAE

DECLARATION

OF

LUCY P. ALLEN

May 3, 2022

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I, Lucy P. Allen, pursuant to 28 U.S.C. § 1746, declare as follows:

I. SCOPE OF ASSIGNMENT

1. I have been asked by counsel for Defendant AT&T Inc. (“AT&T” or the “Company”) to analyze whether information alleged to have been improperly disclosed to analysts (the “Allegedly Improper Disclosures”) between March 9, 2016 and April 26, 2016 (the announcement of AT&T’s 1Q16 results), (the “Allegedly Improper Disclosure Period”), was material as alleged in Plaintiff’s Complaint and Jury Demand (the “Complaint”). In particular, I have been asked to analyze whether information regarding a lower upgrade rate and lower equipment revenue negatively impacted AT&T’s stock price as Plaintiff alleges.¹

2. I was also asked to review expert reports filed by Plaintiff’s experts to the extent that they address this question. In particular, I was asked to review and comment on relevant portions of the expert reports filed by Lauren H. Cohen, Ph.D. (the “Cohen Report”), Dominic DiBucci (the “DiBucci Report”), Marianne R. Wolk (the “Wolk Report”), and John M. Griffin (the “Griffin Report”), all dated February 15, 2022. In addition, I was asked to review and comment on relevant portions of the supplemental reports filed by Mr. DiBucci (the “DiBucci Supplemental Report”) and Ms. Wolk (the “Wolk Supplemental Report”), both dated March 3, 2022.

II. SUMMARY OF FINDINGS

3. I find no evidence that the information alleged to have been improperly disclosed to analysts was material as alleged in Plaintiff’s Complaint.

4. AT&T is a large, widely traded and widely covered blue-chip company. While it is not my understanding that Plaintiff is contesting the efficiency of the market in which AT&T’s shares traded during the relevant period, I note that AT&T’s stock traded in a competitive market which exhibited attributes that courts have associated with market efficiency. In an efficient market, publicly available information is rapidly impounded into the stock price. Accordingly, if information material to investors is disclosed in an efficient market, one would expect a significant reaction in the stock price to the first public announcement of such material news.

¹ Complaint, ¶¶3, 21.

Thus, a test of whether information is material to investors is whether the stock price reacts when the information is first publicly disclosed.

5. Analyst reports contribute to, and form part of, the mix of publicly available information. If material information is disclosed in an analyst report, it becomes public information. In competitive and/or efficient markets, information from an analyst report is rapidly incorporated into the stock price as is other publicly available information (e.g., information from a company filing or other public disclosure by the company). Analyst consensus estimates are likewise public information.

6. According to finance theory, in an efficient market, the price of a stock reflects the market's expectation of the discounted value of future cash flows. The only information that affects the stock price is information that affects the market's expectation of the discounted value of future cash flows. Thus, a change in revenue that does not affect the market's expectation of the discounted value of future cash flows would not be expected to affect the stock price.

7. An analysis of AT&T's disclosures, disclosures by its competitor Verizon, and statements by analysts shows that the market understood that AT&T's unsubsidized wireless equipment revenue is essentially "pass-through" revenue that has no material impact on the Company's earnings. Moreover, the industry-wide shift away from the subsidy model, which resulted in customers keeping their phones longer, was known to the market before the Allegedly Improper Disclosures. The fact that AT&T's stock traded in a competitive market which exhibited attributes that courts have associated with market efficiency is strong evidence that this public information was incorporated into AT&T's stock price before the Allegedly Improper Disclosure Period.

8. I find that while analysts lowered their upgrade rate and equipment revenue estimates during the Allegedly Improper Disclosure Period, the consensus EPS estimate remained largely unchanged. In addition, *none* of the analysts lowered their price targets – meaning the reductions to upgrade rate and equipment revenue estimates did not materially reduce the analysts' expectations for what the Company's stock price would be in the future.

9. A standard method of testing whether a stock price reacts following a particular announcement is to perform an event study. I conducted an event study of AT&T's January 26,

2016 announcement of lower-than-expected 4Q15 revenue attributed to lower equipment upgrades, as well as of the publication of the analyst reports identified by Plaintiff following the Allegedly Improper Disclosures. I find that neither the January 26, 2016 announcement, nor the subsequent publication of the analyst reports, had a statistically significant impact on AT&T's stock price. The absence of any statistically significant stock price reaction demonstrates that the information released on these dates was not material to investors.

10. The market reaction to the January 26, 2016 disclosure is effectively a natural experiment in how the market viewed a revenue miss associated with lower equipment upgrades in the quarter just prior to the Allegedly Improper Disclosures, and of a similar magnitude to the revenue miss that would have occurred in 1Q16 but for the analysts' revisions. The fact that this announcement did not cause any stock price reaction demonstrates that the equipment revenue miss was not important to the market's valuation of AT&T's stock and therefore would not be expected to have an impact one quarter later.

11. I find that, based on an analysis of cumulative abnormal returns, there is no evidence that anyone could have made money or avoided losses based on the information allegedly disclosed. In particular, a test of the cumulative abnormal return over every period that begins with a day within the Allegedly Improper Disclosure Period and ends with the 1Q16 earnings announcement demonstrates that there is no statistically significant cumulative stock price reaction over any of the periods.

12. I find that the Cohen, DiBucci, Wolk, and Griffin Reports provide no reliable evidence that the information allegedly disclosed was material as alleged. Above all, these reports fail to assess the economic impact of phone sales on AT&T's future cash flows and do not provide a compelling explanation for why revenue from unsubsidized handset sales would be likely to negatively impact the stock price or to be viewed by the market as material information as alleged in Plaintiff's Complaint. The reports contradict one another and are internally inconsistent as to whether the information allegedly disclosed to analysts would have been viewed as positive or negative.

III. QUALIFICATIONS AND REMUNERATION

A. Qualifications

13. I am a Managing Director of NERA Economic Consulting (“NERA”) and a member of NERA’s Securities and Finance Practice. NERA provides practical economic advice related to highly complex business and legal issues arising from competition, regulation, public policy, strategy, finance, and litigation. NERA was established in 1961 and now employs approximately 500 people in more than 20 offices worldwide. NERA’s Securities and Finance Practice, which performs research in securities and financial markets, dates from the early 1970s and employs a research staff of more than 100 professionals holding degrees in economics, finance, and mathematics. The practice group counts among its clients major securities exchanges, risk managers, principals needing valuation services, and parties in litigation.

14. I have an A.B. from Stanford University, an M.B.A. with a concentration in Finance and Accounting from Yale University, and M.A. and M. Phil. degrees in Economics, also from Yale University. Prior to joining NERA, I was an Economist for both President George H. W. Bush’s and President Bill Clinton’s Council of Economic Advisers, providing economic analysis on regulation and health care policy issues. In my over 20 years at NERA, I have been engaged as an economic consultant or expert witness in numerous projects involving securities and financial economics. In the course of this work, I have analyzed the effect of information on stock prices of over 100 companies. My resume with recent publications and testifying experience is included as Appendix A.

B. Remuneration

15. NERA is being compensated for time spent by me and my team at standard billing rates and for out-of-pocket expenses at cost. NERA currently bills for my time at \$1,050 per hour. NERA’s fees are not in any way contingent upon the outcome of this matter.

IV. MATERIALS CONSIDERED

16. In preparing this report, I considered the following categories of materials (a complete list of materials considered is included as Appendix B):

- a) Complaint and Jury Demand filed March 5, 2021;
- b) AT&T Inc.’s Answer to Original Complaint filed May 7, 2021;
- c) Christopher C. Womack’s Answer to Original Complaint filed May 7, 2021;
- d) Kent D. Evans’s Answer to Original Complaint filed May 7, 2021;
- e) Michael J. Black’s Answer to Original Complaint filed May 7, 2021;
- f) Defendant AT&T Inc.’s Supplemental Responses and Objections to Plaintiff’s First Set of Interrogatories to AT&T Inc. filed February 22, 2022;
- g) Expert Report of Paul Blalock dated February 15, 2022 (“Blalock Report”) and materials cited;
- h) Expert Report of Lauren H. Cohen, Ph.D. dated February 15, 2022 (“Cohen Report”) and materials cited;
- i) Expert Report of Dominic DiBucci dated February 15, 2022 (“DiBucci Report”) and materials cited;
- j) Draft Expert Report of John M. Griffin dated February 15, 2022 (“Griffin Report”) and materials cited;
- k) Expert Report of Marianne R. Wolk dated February 15, 2022 (“Wolk Report”) and materials cited;
- l) Supplemental Expert Report of Dominic DiBucci dated March 3, 2022 (“DiBucci Supplemental Report”) and materials cited;
- m) Supplemental Expert Report of Marianne R. Wolk dated March 3, 2022 (“Wolk Supplemental Report”) and materials cited;
- n) AT&T and peer companies’ SEC filings;
- o) Analyst reports on AT&T, Apple, peer companies, and the telecom industry from Refinitiv Eikon and documents produced in discovery;
- p) Press releases, conference call transcripts, investor briefings, and news stories on AT&T, peer companies, and telecom industry;

- q) Stock price, trading volume, short interest, and institutional and insider holdings data for AT&T from FactSet Research Systems, Inc. and Bloomberg, L.P.;
- r) Price data for market and industry indexes from Bloomberg, L.P.;
- s) I/B/E/S earnings and revenue consensus estimates and earnings and revenue surprise data from FactSet Research Systems, Inc.;
- t) Academic literature and textbooks on finance, securities, valuation and statistics;
- u) Legal decisions on market efficiency, materiality, Regulation FD, and other topics; and
- v) Publications, rules and statements from the SEC.

V. BACKGROUND

17. AT&T is a “leading provider of communications and digital entertainment services in the United States and the world.”² The services offered by AT&T include, among others, wireless communications, data/broadband and Internet services, digital video services, local and long-distance telephone services, and telecommunications equipment.³ As of December 31, 2015, AT&T’s wireless network served more than 128 million subscribers.⁴

18. AT&T’s reported operating revenues include both service revenues (e.g., revenues for wireless services) and equipment revenues (e.g., revenues from the sales of wireless handsets).⁵ AT&T, like other wireless service providers, historically had offered to subsidize customers’ purchases of handsets if they signed two-year wireless service contracts.⁶ In 2014, AT&T launched a program (AT&T Next) allowing customers to buy handsets on an equipment installment plan (“EIP”) in exchange for discounted service charges. In addition, AT&T offered new customers the opportunity to bring their own device (“BYOD”) – meaning that even if they

² AT&T FY15 Form 10-K, filed February 18, 2016, p. 1.

³ AT&T FY15 Form 10-K, filed February 18, 2016, p. 1.

⁴ AT&T FY15 Form 10-K, filed February 18, 2016, p. 2.

⁵ AT&T Form 8-K, filed January 26, 2016, “Consolidated Statement of Income.”

⁶ AT&T FY15 Form 10-K, filed February 18, 2016, p. 7.

did not buy their device from AT&T, they could activate it on AT&T's wireless network.⁷ In late December 2015, AT&T announced an end to offering subsidized handsets for most of its customers.⁸

19. For the fourth quarter of 2015, AT&T reported total operating revenues of \$42.1 billion. While this revenue represented an increase of 22.3% over the same quarter the previous year, it nonetheless came in more than \$600 million below the 4Q15 analyst consensus estimate (i.e., AT&T had a revenue "miss").⁹ Wireless equipment revenues were \$4.1 billion, a decrease of 14.9% from the same quarter the previous year.¹⁰ The reported earnings per share ("EPS") was in line with the analyst consensus estimate.¹¹ During the earnings call on January 26, 2016, AT&T's then-CFO John Stephens stated that there were "lower equipment sales as customers chose to hold onto their smartphones for a longer period of time"¹² and that "equipment revenues [in the fourth quarter] were down more than \$700 million [year over year], mostly due to the low upgrade volumes."¹³

20. On March 9, 2016, at the Deutsche Bank Media, Internet and Telecom Conference ("DB Conference"), Mr. Stephens again commented on longer upgrade cycles. Specifically, Mr. Stephens stated:

So we're coming out of a really good year, and we're really optimistic that those trends can continue. I should point out, we also saw in the fourth quarter specifically, some other trends... I think you saw in the fourth quarter, it was a **slowdown in the handset upgrade cycle or the total sales. I wouldn't be surprised to see that continue**, and we'll continue to see some foreign exchange issues. In the fourth quarter, with our expanded Latin America base, our Mexico base and, quite frankly,

⁷ AT&T FY15 Form 10-K, filed February 18, 2016, p. 7.

⁸ AT&T FY15 Form 10-K, filed February 18, 2016, p. 16.

⁹ See, for example, Evercore analyst report on AT&T, "First Look: Mixed Results – FCF Shines, Other Metrics Disappoint," dated January 26, 2016 ("Consolidated revs of \$42.1B (+7.7% Q/Q, +22.3% Y/Y) fell short of our/cons. estimates of \$42.7B/\$42.7B.").

¹⁰ AT&T Investor Briefing No. 291, January 26, 2016

¹¹ See, for example, RBC analyst report on AT&T, "T - 4Q15 First Take," dated January 26, 2016 ("4Q15 revenue and adjusted EBITDA were below expectations while EPS was in line.").

¹² AT&T 4Q15 earnings conference call, January 26, 2016, p. 5.

¹³ AT&T 4Q15 earnings conference call, January 26, 2016, p. 6. Note that the public disclosures listed in this paragraph (as well as elsewhere in my report) are examples of public disclosures regarding upgrade rates / equipment revenue. This is not intended to be an exhaustive list.

we still have a very large international business out of our Business Solutions group. I would suggest – you will see some of that going into 2016.

All that being said, **those are impacts possibly on revenues, with very little impact at all on profitability**, because those are all hedged in one way or another with the handset expenses or with the foreign – or with expenses in foreign countries that are [denominated in] those same foreign currencies. So, we're really very, very optimistic about 2016...¹⁴

What we're seeing on an overall basis though is, on average, **customers holding their phones longer**.¹⁵

21. Following the March 9, 2016 presentation, I understand that AT&T's investor relations ("IR") employees had calls with equity research analysts following the Company. Between March 9, 2016 and April 26, 2016, analysts reduced their estimates for AT&T's 1Q16 total revenue.

22. On April 26, 2016, AT&T announced its 1Q16 earnings. AT&T reported total operating revenues of \$40.5 billion, an increase of 24.4% over the same quarter the previous year and slightly higher than the analyst consensus estimate (i.e., AT&T had a slight revenue "beat").¹⁶ The reported EPS was also a slight beat to analysts' expectations.¹⁷ Wireless equipment revenues were \$3.2 billion, a decrease of 6.5% from the same quarter the previous year.¹⁸ During the earnings call, Mr. Stephens stated:

While **overall wireless revenues were down slightly due to lower equipment sales**, we've changed the game with our equipment installment plans. We started the transition more than two years ago with Next and are substantially through that transition.

23. The chart below shows AT&T's daily stock price and trading volume from January 2015 to December 2017.

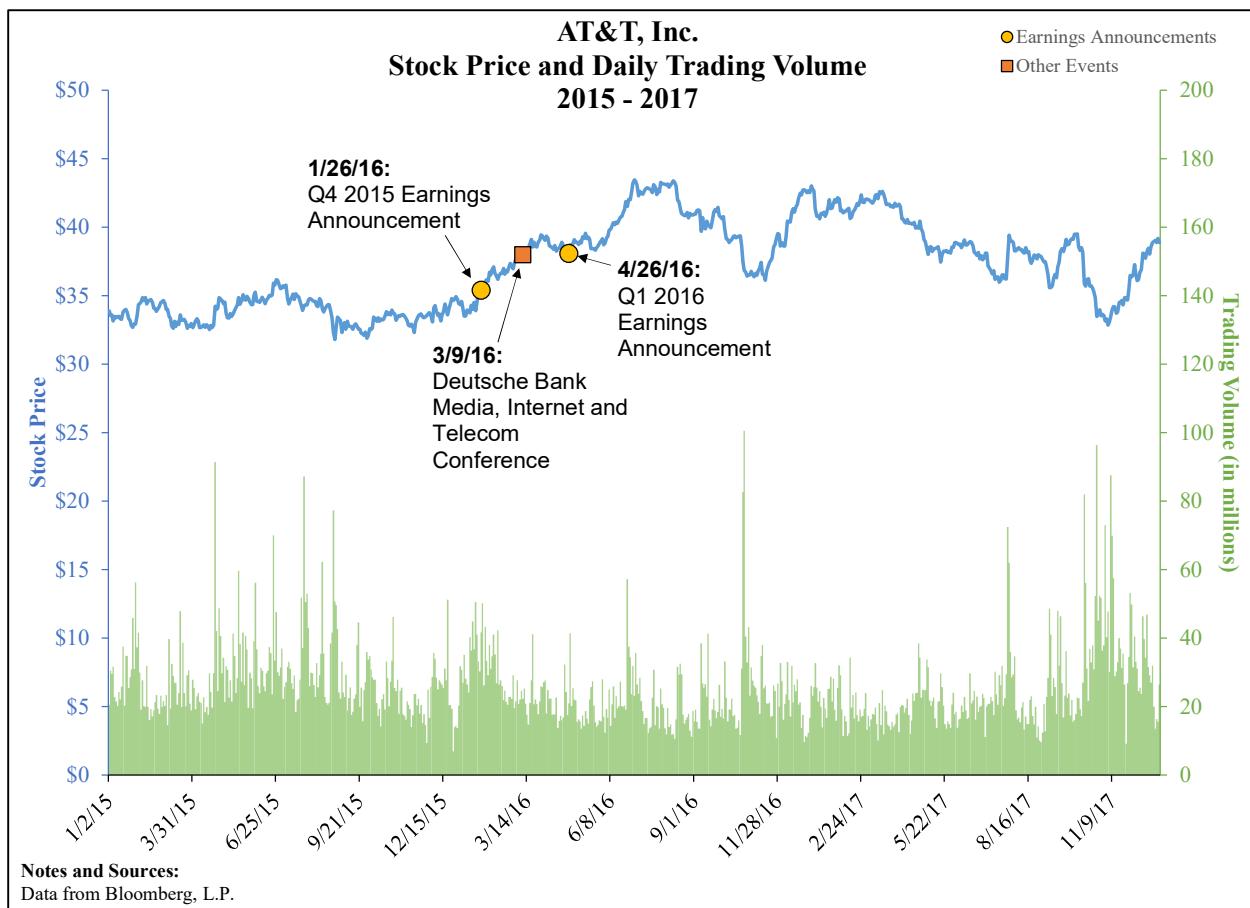
¹⁴ AT&T at Deutsche Bank Media, Internet, & Telecom Conference, March 9, 2016, pp. 3-4, emphasis added.

¹⁵ AT&T at Deutsche Bank Media, Internet, & Telecom Conference, March 9, 2016, p. 7, emphasis added.

¹⁶ See, for example, Evercore analyst report on AT&T, "1Q First Look: Results Mixed with EPS Ahead, but FCF Below," dated April 26, 2016 ("T released 1Q16 results today... consolidated revs of \$40.54B (-3.8% Q/Q, +24.4% Y/Y) was 0.1% above cons. of \$40.51B.").

¹⁷ See, for example, Bank of America analyst report on AT&T, "1Q16 First Look: Earnings ahead on strong segment margins," dated April 26, 2016 ("AT&T reported 1Q16 EPS of \$0.72 which was \$0.03 above consensus of \$0.69[.]").

¹⁸ AT&T Investor Briefing No. 292, April 26, 2016.



VI. SUMMARY OF ALLEGATIONS

24. Plaintiff alleges that Defendant AT&T and the individual Defendants “repeatedly violated Regulation FD (Fair Disclosure)... by disclosing AT&T’s projected and actual financial results during phone calls Womack, Evans, and Black held with equity stock analysts from approximately 20 Wall Street firms on a one-on-one basis” during the Allegedly Improper Disclosure Period prior to the April 26, 2016 earnings release.¹⁹ Plaintiff alleges that Womack, Evans, and Black “intentionally disclosed material nonpublic information regarding AT&T’s results to date” during these calls.²⁰

¹⁹ Complaint, ¶1.

²⁰ Complaint, ¶5.

25. In particular, Plaintiff alleges that, depending on the firm and the date of the call, Womack, Evans, and Black “disclosed AT&T’s projected or actual equipment upgrade rate, its projected or actual wireless equipment revenue amount (presented as a percentage decrease compared with the first quarter of 2015), or both.”²¹ In addition, Plaintiff alleges that on some of Black’s calls with analysts, he “represented to the analysts that he was conveying publicly available consensus estimates, when in fact he was providing AT&T’s own internal projected or actual results.”²² Plaintiff alleges that “Womack, Evans, and Black knew or recklessly disregarded that the information that they provided to the analysts during these calls was both material and nonpublic.”²³ Plaintiff claims that the Allegedly Improper Disclosures were made to avoid a revenue miss, which Plaintiff claims would have been viewed as “negative news” for AT&T.²⁴

26. Plaintiff has put forth three expert reports that address or comment on whether the information alleged to have been improperly disclosed to analysts was material as alleged in Plaintiff’s Complaint – in particular, whether information regarding a lower equipment upgrade rate and lower equipment revenue negatively impacted AT&T’s stock price: the Cohen Report, the DiBucci Report, and the Wolk Report. The Griffin Report comments on the impact of reductions in upgrade rates on AT&T’s equipment revenue and total revenue, but does not address the impact on AT&T’s stock price.

27. It is my understanding that the Complaint in this matter does not allege that any investors were injured by the alleged disclosure of information through the analyst reports that were published after the calls at issue, nor does the Complaint allege that any traders were able to make money or avoid losses based on how the alleged information was disclosed.

²¹ Complaint, ¶5.

²² Complaint, ¶6.

²³ Complaint, ¶7.

²⁴ Complaint, ¶21.

VII. METHODOLOGY AND RELEVANT ECONOMIC PRINCIPLES

A. AT&T is a large and widely covered company

28. AT&T is a large, blue-chip company whose stock is among the most widely held U.S. stocks.²⁵ AT&T is a constituent of the S&P 500 index. The SEC describes the S&P 500 index as “a capitalization-weighted index of 500 stocks intended to be a representative sample of leading companies in leading industries within the U.S. economy.”²⁶ The SEC states that these stocks are “chosen for market size, liquidity, and industry group representation.”²⁷

29. While it is not my understanding that Plaintiff is contesting the efficiency of the market in which AT&T’s shares traded during the relevant period, I note that AT&T’s stock traded in a competitive market which exhibited attributes that courts have associated with market efficiency, including in the *Cammer v. Bloom* decision.²⁸ For example:

- a) AT&T’s stock was actively traded, with an average weekly trading volume of over 2.3% of shares outstanding, over the *Cammer* threshold of 2% of shares outstanding;
- b) AT&T was widely covered by professional equity analysts, including from at least 27 different investment banks and brokerage firms;
- c) AT&T’s stock traded on a large stock exchange, the NYSE, and was held and traded by hundreds of large, sophisticated and well-funded institutional investors;
- d) AT&T met the \$75 million float requirement for Form S-3 and filed Form S-3 on February 25, 2016.

These factors are discussed in detail below.

²⁵ “AT&T to Slash Dividend by Half – Telecom company to spin off WarnerMedia as it jettisons position in entertainment,” *The Wall Street Journal*, February 2, 2022.

²⁶ See, “Market Indices,” <https://www.sec.gov/fast-answers/answersindiceshtm.html>.

²⁷ See, “Market Indices,” <https://www.sec.gov/fast-answers/answersindiceshtm.html>.

²⁸ One commonly used set of market efficiency tests is from the decision in *Cammer v. Bloom*. This decision discussed five factors to examine when analyzing market efficiency: a) Weekly trading volume as a percent of shares outstanding; b) Analyst coverage; c) Market makers and arbitrageurs; d) Form S-3 eligibility; e) Cause-and-effect relationship between the release of new information and stock price movements. *Cammer v. Bloom*, 711 F. Supp. 1264, 1286-87 (D.N.J. 1989).

Weekly trading volume

30. The first factor considered by the Court in *Cammer* is the average weekly trading volume as a percent of shares outstanding. As the *Cammer* Court stated, “[t]he reason the existence of an actively traded market, as evidenced by a large weekly volume of stock trades, suggests there is an efficient market is because it implies significant investor interest in the company.”²⁹ During the period from January 1, 2015 to April 26, 2016, approximately 135.3 million AT&T shares, on average, traded each week. The average ratio of the weekly trading volume to shares outstanding was 2.39%.³⁰ This figure is higher than the 2% threshold that *Cammer* held “would justify a strong presumption that the market for the security is an efficient one.”³¹

Analyst coverage

31. The second factor considered by the Court in *Cammer* is the number of securities analysts that followed and reported on the company’s stock.

32. Analyst reports are periodic reports issued by professional financial analysts who perform research and analysis on specific industries and companies. Analysts evaluate companies by studying information about the company and the stock, such as SEC filings, as well as by participating on conference calls and attending investor conferences where they can ask questions directly to management. Analysts use this information to model and value companies and their competitors using financial techniques such as discounted cash flow models and valuation multiples. Using these valuations, analysts typically issue price targets (*i.e.*, what price they expect the stock of a company to be in a certain time period), provide estimates reflecting their expectations of the company’s future financial performance (such as estimates of future revenue, profits and earnings per share), and give recommendations to buy, hold or sell the stock. Analysts covering a company typically issue reports after new information about the company is released. These reports can be valuable source of information on market knowledge and sentiment, and provide contemporaneous, written documentation of what information was

²⁹ *Cammer* 711 F. Supp. at 1286.

³⁰ Calculated using data obtained from FactSet Research Systems, Inc.

³¹ *Cammer* 711 F. Supp. at 1286.

available to market participants, how different information impacted the valuation of the company / its stock, and what caused the stock price to move. The review of analyst reports is a standard and generally accepted methodology for determining what information is important to the market in valuing a stock.³²

33. Between January 1, 2015 and April 26, 2016, AT&T was covered by professional market analysts from at least 27 different investment banks and brokerage firms, whose jobs were to closely follow and value AT&T and the industry. Together, these analysts issued over 393 reports on the Company during that period.³³ The *Cammer* court found efficiency where the security at issue was the subject of “[a]t least 15 research reports [...] from July 1987 through June 1988” (a 12-month period).³⁴ In this case, analysts covering AT&T issued over 270 reports on the Company in the year prior to April 26, 2016.

Market makers and arbitrageurs

34. The third factor considered by the Court in *Cammer* is the presence of market makers and arbitrageurs. As the *Cammer* Court stated, “[t]he existence of market makers and arbitrageurs would ensure completion of the market mechanism; these individuals would react swiftly to company news and reported financial results by buying or selling stock and driving it to a changed price level.”³⁵

³² Courts have relied on analyst reports in determining what information is important to the market in valuing a stock and in determining the cause of stock price movements. See, for example, *In Re TECO Energy Inc. Securities Litigation*, 2006 U.S. Dist. LEXIS 18101 (M.D. Fla., March 30, 2006) (“Specifically, the analyst reports on September 3, 2002, September 23, 2002, October 8, 2002, and January 23, 2003 address ratings cuts, opinions, and predictions regarding TECO’s stock value but do not reference any misstatements, omissions, or accounting practices by Defendants as the reason for the bleak forecasts or changes in market conditions.”) and *Barrie v. Intervoice-Brite, Inc.*, 2006 U.S. Dist. LEXIS 69299 (N.D. Tex., Sept. 25, 2006) (“Barry’s review of analyst reports and the public press also shows that those information sources did not link the June 6 disclosure to any prior earnings or revenues that were supposedly overstated.”). The First Circuit has also recommended analyzing contemporaneous content for explaining stock price movements, citing a paper that specifically describes performing content analysis of analyst reports and commentary. See, *Bricklayers & Trowel Trades International Pension Fund v. Credit Suisse Securities (USA) LLC*, 752 F.3d 82, 92 (1st Cir. 2014), citing David Tabak, “Making Assessments About Materiality Less Subjective Through the Use of Content Analysis,” 2007.

³³ Analyst report list from Refinitiv Eikon. Count includes only analyst reports where the primary ticker was AT&T. Excludes reports from non-analysts.

³⁴ *Cammer* 711 F. Supp. at 1283.

³⁵ *Cammer* 711 F. Supp. at 1286-1287.

35. Throughout the period from January 1, 2015 to April 26, 2016, AT&T's stock traded on a large stock exchange, the NYSE,³⁶ which involved the use of a well-capitalized Designated Market Maker to facilitate fair and orderly trading.³⁷ Numerous studies have shown that in competitive and/or efficient markets, like the NYSE, market forces and the competition between buyers and sellers cause available information to be incorporated rapidly into the stock price.³⁸ Investors compete to discover information before the rest of the market and then to trade on that information (*i.e.*, buy or sell the stock) to make money. As investors trade the stock, the value of the information gets incorporated into the stock price.³⁹ For example, if there is information in the market indicating that a stock is underpriced, investors will attempt to profit by buying the stock and bidding up its price until the price reaches an appropriate level and the mispricing is corrected (thus eliminating the profit opportunity). Investors, therefore, have an incentive to review public information such as company filings, news stories and analyst reports as they are released to identify new information that has not yet been incorporated into the stock price.

36. Furthermore, during the relevant period, AT&T's stock was held and traded by hundreds of large, sophisticated and well-funded institutional investors (*i.e.*, SEC Form 13-F filers).⁴⁰ Over 51% of AT&T's shares outstanding on March 31, 2016 were held by Form 13-F filers, with 2,263 individual institutions holding AT&T's stock.⁴¹

Form S-3 Eligibility

³⁶ See, for example, AT&T FY15 Form 10-K, filed February 18, 2016, p. 16.

³⁷ See, "How the NYSE Market Model Works," <https://www.nyse.com/market-model>.

³⁸ See, for example, Richard A. Brealey, Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance* (McGraw-Hill: New York, NY, 10th ed., 2011), p. 330.

³⁹ See, for example, Richard A. Brealey, Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance* (McGraw-Hill: New York, NY, 10th ed., 2011), p. 330. See, also, Zvi Bodie, Alex Kane, and Alan J. Marcus, *Investments* (McGraw-Hill: New York, NY, 10th ed., 2014), pp. 350-352 ("[I]t is virtually certain that there are many investigators hot on the trail of most leads that seem likely to improve investment performance. Competition among these many well-backed, highly paid, aggressive analysts ensures that, as a general rule, stock prices ought to reflect available information regarding their proper levels.").

⁴⁰ Institutions that hold over \$100 million in U.S. equities must report their holdings to the SEC on a quarterly basis via Form 13-F. Examples of institutions that file Form 13-F include banks, investment advisers, insurance companies, pension funds and corporations. See, <https://www.sec.gov/fast-answers/answers-form13fhtm.html>.

⁴¹ Based on data from FactSet Research Systems, Inc. and Bloomberg, L.P.

37. The fourth factor considered by the Court in *Cammer* is the eligibility of the company to register securities via SEC Form S-3. Form S-3 is a registration form that is designed to “recognize the applicability of the efficient market theory to those companies which provide a steady stream of high quality corporate information to the marketplace and whose corporate information is broadly disseminated.”⁴² Currently, the eligibility requirements require companies to file reports with the SEC for 12 months and to have \$75 million of stock held by non-affiliates.⁴³

38. Throughout the period from January 1, 2015 to April 26, 2016, AT&T met the \$75 million float requirement for Form S-3 and AT&T filed Form S-3 on February 25, 2016.

B. Information that does not change the market’s expectation of the discounted value of future cash flows would not be expected to affect the stock price

39. According to finance theory, in an efficient market, the price of a stock reflects the market’s expectation of the discounted value of future cash flows.⁴⁴ The only information that affects the stock price is information that affects the market’s expectation of the discounted value of future cash flows. That is, the cash flows themselves and the riskiness of achieving them are ultimately the only factors affecting the stock price.⁴⁵ For example, an SEC study states, “There is, for example, considerable stock price evidence showing that the market effectively values time-discounted cash flows, not simply current reported earnings.”⁴⁶

40. The SEC’s Adopting Release for Regulation FD lists seven categories of information that the SEC states “should be reviewed carefully to determine whether they are

⁴² Securities Act Release No. 8878, 72 FR 73534, December 19, 2007.

⁴³ *Final Report of the Advisory Committee on Smaller Public Companies to the United States Securities and Exchange Commission*, dated April 23, 2006, pp. 68-72.

⁴⁴ See, for example, Brealey, Richard A., Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance* (McGraw-Hill: New York, NY, 7th ed., 2003), p. 366.

⁴⁵ The riskiness of the cash flows affects the stock price via the discount factor. See, for example, Brealey, Richard A., Stewart C. Myers and Franklin Allen, *Principles of Corporate Finance* (McGraw-Hill: New York, NY, 7th ed., 2003), p. 239.

⁴⁶ Jarrell, Gregg and Kenneth Lehn, “Institutional Ownership, Tender Offers, and Long-Term Investments,” Securities and Exchange Commission, 1985.

material: (1) Earnings information; (2) mergers, acquisitions, tender offers, joint ventures, or changes in assets; (3) new products or discoveries, or developments regarding customers or suppliers (e.g., the acquisition or loss of a contract); (4) changes in control or in management; (5) change in auditors or auditor notification that the issuer may no longer rely on an auditor's audit report; (6) events regarding the issuer's securities—e.g., defaults on senior securities, calls of securities for redemption, repurchase plans, stock splits or changes in dividends, changes to the rights of security holders, public or private sales of additional securities; and (7) bankruptcies or receiverships.”⁴⁷ These categories include information that could plausibly impact the market’s perception of future cash. This is consistent with the financial principle that the only information that affects the stock price is information that affects the market’s expectation of the discounted value of future cash flows. By contrast, revenue that does not produce meaningful net positive or negative discounted future cash flows would not be expected to affect the stock price.

41. Because the market’s expectation of future cash flows is what determines market value, the fact that a particular transaction or revenue stream shows an accounting profit or loss for a given quarter is not determinative as to how the market values a stock. Instead, it is the overall economic impact of the revenue stream on the discounted value of future cash flows that matters. For example, if the sale of an iPhone on an installment plan results in an accounting loss for the current quarter, the market would nonetheless consider the economic effect of the entire transaction, including the expected future cash flows (e.g., future installment payments), in determining how the sale impacts the stock price, instead of simply looking at the accounting snapshot for one quarter.

42. Likewise, a company’s overall average “margin” does not have relevance to the stock price apart from its impact on the market’s expectation of the discounted value of future cash flows. If a profitable company has one source of revenue that is profit neutral (e.g., equipment revenue), while its other revenue streams are profitable, reducing the amount of profit neutral revenue will, holding all else equal, increase the average overall margin across all revenue streams. But that margin increase would not be expected to impact the stock price unless

⁴⁷ See, “Selective Disclosure and Insider Trading,” 65 FR 51716-01, 2000 WL 1197687 (Aug. 24, 2000).

it resulted in a meaningful change in the market's expectation of the discounted value of future cash flows.

C. Event study analysis can be used to test whether information is material to investors

43. In an efficient market, publicly available information is rapidly impounded into the stock price. Accordingly, if information material to investors is disclosed in an efficient market, one would expect a significant reaction in the stock price to the first public announcement of such material news. Thus, a test of whether information is material to investors is whether the stock price reacts when the information is first publicly disclosed.

44. A standard method of testing whether a stock price reacts following a particular announcement is to perform an event study. An event study is a commonly accepted statistical analysis that measures the movement in a stock's price after an event or public announcement, typically adjusting for the movement in the overall market and/or industry.⁴⁸ Academics often use an event study to determine how stock prices respond to new information.⁴⁹ An event study typically uses a statistical analysis called a regression to estimate the relationship between the company's daily stock returns and the daily returns of market and/or industry indices, often over a control period.⁵⁰ Using the regression results and the returns of the indices, the predicted stock price movement and excess stock price movement (or the amount the stock price moves in excess of the predicted amount) can be calculated for the day or period being tested. Then, the statistical significance of the excess stock price movement can be tested.⁵¹ If a price reaction is

⁴⁸ See, for example, Alexander, Janet C., "The Value of Bad News in Securities Class Actions," UCLA Law Review 41: 1994, Fischel, Daniel R., "Use of Modern Finance Theory in Securities Fraud Cases Involving Actively Traded Securities," *The Business Lawyer* 38: 1982, and Dunbar, Frederick C., and David I. Tabak, "Materiality and Magnitude: Event Studies in the Courtroom," *Litigation Services Handbook: The Role of the Financial Expert* (John Wiley & Sons, Inc.: New York, NY, 3rd ed., 2001), ch. 19

⁴⁹ See, for example, MacKinlay, A. Craig, "Event Studies in Economics and Finance," Journal of Economic Literature, 35: 1997, and Bowman, Robert G., "Understanding and Conducting Event Studies," *Journal of Business Finance & Accounting* 10(4): 1983.

⁵⁰ Regression analysis is used to estimate the relationship between two or more variables. See, for example, Hogg, Robert V. and Elliot A. Tanis, *Probability and Statistical Inference* (Prentice Hall: Upper Saddle River, NJ, 5th ed., 1997).

⁵¹ The results of the event study are based on the 5% significance level, the standard typically used. See, for example, Freedman, David A., and David H. Kaye, "Reference Guide on Statistics," *Reference Manual on*

not statistically significant, it is within the range of normal expected daily variation in stock prices. The absence of a statistically significant price reaction demonstrates that the information announced was not material to investors – *i.e.*, that there was no new, stock-price relevant information disclosed.

45. I performed event studies to test whether AT&T’s stock price reacted to events or announcements relevant to the Allegedly Improper Disclosures. For the event study of AT&T’s stock, the S&P 500 Index (excluding AT&T) was used to control for market movements, and a market-cap-weighted index of AT&T’s peer companies (Verizon, T-Mobile, and Sprint)⁵² was used to control for industry movements. A control period of 252 trading days (approximately one year) prior to each event tested was used.

D. Analyst reports and analyst consensus estimates are publicly available and the information they contain is quickly impounded into the stock price

46. Analyst reports are publicly available through multiple channels. They are distributed to clients of the issuing firms and are also available from research providers such as Bloomberg and Refinitiv Eikon. The news media often reports on analysts’ recommendations and commentary.⁵³ As the SEC has itself acknowledged, analysts play an important role in promoting market efficiency:⁵⁴

Scientific Evidence (Washington, D.C.: The National Academies Press, 3rd ed., 2011), pp. 211-302, and Fisher, Franklin M., “Multiple Regression in Legal Proceedings,” *Columbia Law Review*, 80: 1980.

⁵² “Our competitors include brands such as Verizon Wireless, Sprint, T-Mobile/Metro PCS, a larger number of regional providers of cellular, PCS and other wireless communications services and resellers of those services.” AT&T FY15 Form 10-K, filed February 18, 2016, p. 20.

⁵³ For example, several articles discussed the March 18, 2016 UBS analyst report shortly after its release. See, for example, “Upgrade Trend Good For Verizon, AT&T Until iPhone 7 Refresh: UBS,” *Investor’s Business Daily*, March 18, 2016 and “UBS Says Move to Installment Plans for Handsets a key Driver for Wireless,” *Warren’s Consumer Electronics Daily*, March 21, 2016. See, also, “Analyzing Analyst Recommendations,” <https://www.sec.gov/tm/reportspubs/investor-publications/investorpubsanalystshtm.html> (“Analysts’ recommendations or reports can influence the price of a company’s stock—especially when the recommendations are widely disseminated through television appearances or through other electronic and print media.”).

⁵⁴ See, “Analyzing Analyst Recommendations,” <https://www.sec.gov/tm/reportspubs/investor-publications/investorpubsanalystshtm.html>, emphasis added.

Analysts historically have served an important role, **promoting the efficiency of our markets** by ferreting out facts and offering valuable insights on companies and industry trends.

47. Analyst reports contribute to, and form part of, the mix of publicly available information. If material information is disclosed in an analyst report, it becomes public information. In competitive and/or efficient markets, information from an analyst report is rapidly incorporated into the stock price as is other publicly available information (e.g., information from a company filing or other public disclosure by the company).⁵⁵

48. The first analyst report that was published after the calls at issue and which contained a revised revenue forecast was the UBS report published on March 18, 2016. The information contained in that report thus became public when the report was published. The same is true for each successive report that was published between March 18, 2016, and the announcement of AT&T's 1Q16 results on April 26, 2016.

49. The analyst consensus estimate is typically defined as “the mean estimate of each individual analyst’s most recent forecast for the fiscal period issued in a specified window before the earnings announcement.”⁵⁶ Analyst consensus estimates are publicly available through data

⁵⁵ See, for example:

“We examine stock price behavior in response to initial coverage, buy recommendations that are pre-released to important clients before the stock market opens, and find a strong positive valuation effect at the open. On average, it takes five minutes of trading for NYSE/AMEX stocks and 15 minutes for NASDAQ stocks to reflect the private information contained in these analyst recommendations... [F]or NYSE/AMEX stocks, almost all of the private information contained in analyst recommendations is reflected in the opening trade.” Kim, Sok Tae, Ji-Chai Lin, and Myron B. Slovin, “Market Structure, Informed Trading, and Analysts’ Recommendations,” *Journal of Financial and Quantitative Analysis*, 32(4): 1997, pp. 507-508.

“The Morning Call and Midday Call segments on CNBC TV provide a unique opportunity to study the efficient market hypothesis. The segments report analysts’ views above individual stocks and are broadcast when the market is open. We find that prices respond to reports within seconds of initial mention, with positive reports fully incorporated within one minute.” Busse, Jeffrey A. and T. Clifton Green, “Market efficiency in real time,” *Journal of Financial Economics*, 65: 2002, p. 415.

“After showing that analysts are informative on average, we also examine whether individual recommendations are influential in the presence of firms’ own corporate information disclosures. Our multivariate framework allows us to estimate the relative importance of analyst recommendations, earnings announcements, and management guidance in corresponding stock markets... We find that analyst recommendation revisions are the most important and influential information disclosure channel examined.” Bradley, Daniel, Jonathan Clarke, Suzanne Lee, and Chayawat Ornthanalai, “Are Analysts’ Recommendations Informative? Intraday Evidence on the Impact of Time Stamp Delays,” *Journal of Finance*, 69(2): 2014, p. 669.

⁵⁶ Kirk, Marcus P., David A. Reppenhagen, and Jennifer Wu Tucker, “Meeting Individual Analyst Expectations,” *The Accounting Review*, 89(6): 2014, p. 2207.

vendors such as Bloomberg and I/B/E/S (Institutional Brokers' Estimate System) and are reported in the news media. As noted in Plaintiff's experts' reports, there may be differences in the consensus figures reported by different data vendors due to different contributors being included.⁵⁷ Market participants can calculate their own consensus estimates using publicly available data in analyst reports. An analyst can determine from public information whether a particular estimate reflects an average of all current published estimates.

VIII. THE MARKET UNDERSTOOD THAT AT&T'S EQUIPMENT REVENUE IS ESSENTIALLY “PASS-THROUGH” REVENUE

50. AT&T had previously disclosed to the market, and the market understood, that the Company's unsubsidized wireless equipment revenue was essentially “pass-through” revenue.

A. AT&T's CFO stated that lower equipment revenue would have very little impact on profitability at the DB Conference on March 9, 2016

51. Mr. Stephens's statement at the March 9, 2016 DB Conference indicated that the slowdown in the handset upgrade cycle and associated lower equipment revenue would have “very little impact at all on profitability.” Deutsche Bank's analyst report with highlights from the conference states:

Updates: While some **revenue headwinds like lower handset volumes** and negative F/X swings appear to have continued in early 2016, these **do not impact margin/profitability improvements** (where T remains focused). [Deutsche Bank on AT&T, 3/9/16, emphasis added]

B. Verizon announced that there was “no profit” in equipment revenue at the DB Conference

52. One of AT&T's largest wireless services competitors, Verizon, also publicly announced at the same Deutsche Bank conference on March 8, 2016 that unsubsidized wireless

⁵⁷ See, Wolk Report, p. 15 and Griffin Report, ¶22.

equipment sales were “at cost” and produced “no profit,” thus further confirming to the market that unsubsidized phone sales have little impact on earnings:⁵⁸

In this world, where the customers [sic] is paying full price for the phone, [upgrade volume] has less of an impact... it's zero profit... [b]ecause **everyone is selling them at cost**... So, where volumes go, volumes will go. It does, obviously, have an impact to top-line because the more I sell, the more revenue growth there is. But, there's **no profit** in that revenue growth.

C. Analysts understood that AT&T’s equipment revenue was essentially “pass-through” revenue

53. Analysts understood that AT&T’s equipment revenue was essentially “pass-through” revenue that would not have a “meaningful impact” on the Company’s earnings. For example:

AT&T has wholeheartedly adopted handset financing, while retaining a subsidized handset offer, whereas Verizon still focuses on subsidized handsets and T-Mobile has gone to a 100% financed mode. Subsidized handset sales hurt margins in the quarter in which the customer comes on board, **whereas handsets sold on financing plans, such as AT&T Next, are typically breakeven.** [Drexel Hamilton on AT&T, 1/16/15, emphasis added]

Given our lowered estimates for upgrades and gross adds, we are also lowering our equipment revenue assumptions for the group. This **should not have a meaningful impact on EBITDA as EIP accounting allows them to largely match equipment revenues with the cost of the device.** [UBS on Wireless Telecommunications Industry, 3/18/16, emphasis added]

Revenue headwinds - While this is **more optical in nature**, we nonetheless flag that we are **reducing revenue expectations** into the print given: (1) lower handset upgrade volumes, and (2) FIX headwinds. Though we believe there are **cost offsets which keep our EPS expectations unchanged**, we note our current 1Q16 revenue estimate is -3% vs. consensus, which we expect to trend lower in upcoming weeks. [Deutsche Bank on AT&T, 3/21/16, emphasis added]

We believe T's postpay upgrades will be 5% in Q1, 300bps below current Street expectations. [...] While this is a negative for the headline revenue print (as equipment revenues likely will come in below where Street is currently modeling), we note this **equipment revenue is margin neutral, or essentially a pass through.** So while lower revenue is optically tough to see, **it does not impact margin or EPS.** [Wells Fargo on AT&T, 3/28/16, emphasis added]

⁵⁸ Verizon at Deutsche Bank Media, Internet and Telecom Conference, March 8, 2016, p. 16, emphasis added.

We are making **changes to our estimates for AT&T and Verizon based on updated upgrade assumptions**, which has the effect of **lowering our equipment revenue estimates**. At the same time, this should lead to a slightly more positive adjusted EBITDA margin. We do not believe that these are significant changes to the model because, as we mentioned previously, **equipment revenue is basically a pass-through account**. In addition, we believe FX pressures will affect AT&T's 1Q16 results and thus lead to slightly lower international revenue. [...] Our total EPS estimates for 1Q16 and F2016 remain unchanged. [Pacific Crest on Communications Services Industry, 4/19/16, emphasis added]

54. Testimony from UBS analysts covering AT&T shows that they understood that equipment revenue was “roughly break even” and would not change EPS estimates:

Q. Is there any margins or profit associated with equipment revenue?

A. No. It’s a **pass-through**.

Q. When you say "pass-through," tell the jury what that means. It means you get the revenue in, but you have a cost associated with it?

A. Yes –

Q. Okay.

A. -- that's -- exactly. And it's about the same [...] from an installment plan standpoint, it's roughly break even.⁵⁹

A. [...]if wireless equipment revenue is down 20 percent, probably my cost of equipment is going to be down a similar amount, and there will be **no change to my EBITDA or EPS estimates that really drive my price target** and recommendation on the day.⁶⁰

55. Thus, analysts covering AT&T did not characterize lower upgrade rates as being concerning for the Company given that AT&T’s equipment revenue was essentially “pass-through” revenue. In contrast, analysts *were* concerned about the impact of lower upgrade rates on Apple, a company with a different business model. For example, the UBS analysts covering Apple described the lower upgrade rates as “disappointing” and being one of the “concerns” that that the analysts had.⁶¹ UBS analyst John Hodulik testified:

Q. [...] So now let me just ask you in general about -- about upgrade rates for it. As you saw this trend in upgrade rates, you said for a couple of years, is that the kind of metric that an investor should focus on as a top metric?

A. **If you're an investor in Apple, that would be a good metric. As an**

⁵⁹ Deposition of John Hodulik dated November 17, 2021 (“Hodulik Deposition”) at 58:6-23, emphasis added.

⁶⁰ Deposition of Batya Levi dated November 17, 2021 (“Levi Deposition”) at 97:8-16, emphasis added.

⁶¹ UBS analyst report on Apple, Inc., “Weak Upgrades and How the iPhone 5se Might Help,” dated March 14, 2016.

investor in AT&T, we don't get -- I would say **we get very few, if any, questions about upgrade rates**. It's sort of a tertiary.

Q. A tertiary means secondary or –

A. Yeah, yeah –

Q. -- next level?

A. -- yeah, even secondary. I mean, it's not something we typically -- I mean, occasionally we get questions about it, but -- I mean, we look at everything. We want to look at everything.

Q. I understand that. I'm going to back away from your careful analysis to more what a reasonable investor would be thinking about or looking about in a company as complicated as –

A. Okay.

Q. -- AT&T. **Would upgrade rates make anyone's list** –

A. No.

Q. -- **of top 50 or hundred things** –

MR. ZETLIN-JONES: Objection.

THE WITNESS: **A typical investor, no.**⁶²

56. It is unsurprising that analysts and the market would view unsubsidized phone sales as having little impact on AT&T's earnings. Smartphones are publicly sold by manufacturers (like Apple) directly and through other retailers. Analysts can compare the prices charged at Apple stores for an iPhone and the prices charged by AT&T for the same phones. If there was a substantial difference, that would be public information.

57. Analysts' understanding that AT&T's equipment revenue was essentially "pass-through" revenue is consistent with AT&T's interrogatory responses⁶³ and Mr. Stephens' deposition testimony,⁶⁴ which reflect that AT&T did not internally view unsubsidized phone

⁶² Hodulik Deposition at 62:7-63:17, emphasis added.

⁶³ "AT&T understood throughout March and April of 2016, including at the time of the Analyst Calls, that handset upgrades and equipment revenue had no material impact on AT&T's earnings, that any changes to wireless equipment upgrade rates or wireless equipment revenue likewise would have no material impact on AT&T's earnings, that information unlikely to affect anticipated earnings was also unlikely as a general matter to impact AT&T's stock price, and that the announcement of lower wireless equipment revenues for the fourth quarter of 2015 had no material impact on AT&T's stock price." Defendant's Supplemental Responses and Objections to Plaintiff's First Interrogatories, February 22, 2022, pp. 10-11.

⁶⁴ See, for example, from Mr. Stephens' deposition and his deposition as a representative of AT&T, Inc.:

"Q. So the sales -- put it this way: Is it your position that the sale -- AT&T's sales of equipment were immaterial to its business?

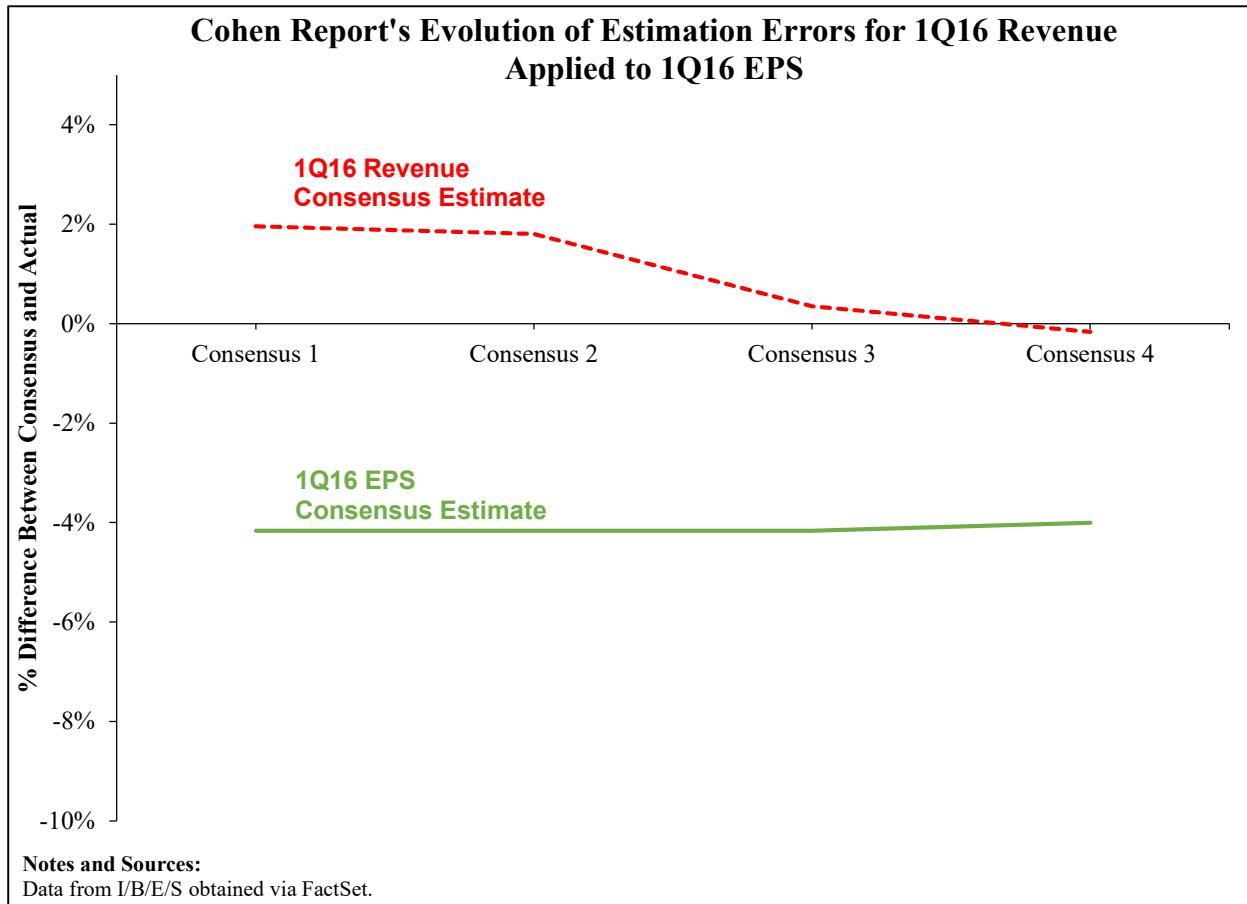
A. Our sales of handsets in '16 under Next equipment installment programs were de minimis profit or loss.

Q. My question was: Was AT&T's sales of equipment immaterial to its business in Q1 2016?

MR. KRUMHOLZ: Objection.

A. Yes." Deposition of John Stephens dated February 18, 2022 ("Stephens Deposition") at 214:6-15.

sales as having a material impact on AT&T's earnings. The chart below shows that while the analyst consensus revenue estimate for 1Q16 was revised downward as analysts reduced their upgrade rate and equipment revenue estimates, the consensus EPS estimate remained relatively flat. This illustrates that analysts understood that equipment revenue is essentially "pass-through" revenue with no material impact on AT&T's bottom line.



58. During 1Q16, AT&T had more than \$40.5 billion in operating revenues and more than \$3.8 billion in net income. Plaintiff alleges that UBS (described as "Analyst Firm C" in the Complaint) reduced its total revenue forecast by \$660 million and lowered its published upgrade

"Q. Okay. So from an EBITDA basis, there was a low -- a higher -- a lower EBITDA impact under the Next plan than there was under the subsidized plans; is that correct?

MR. KRUMHOLZ: Objection.

A. Yeah, I'll say it this way: Under the Next plan, we sold the phone basically at cost, so there was little impact on profitability.

BY MR. SUTHAMMANONT: Q. Okay.

A. On a subsidized phone, we sold it below cost, so there was an impact on profitability." Deposition of AT&T (John Stephens) dated February 23, 2022 ("AT&T Deposition") at 67:6-13.

rate from 6.2% (which was published before the March 9 conference remarks) to 5.1% after the calls. This \$660 million reduction is only 1.6% of AT&T's total revenue for the quarter. UBS moreover did *not* change its price target and noted that sales of unsubsidized phones did "not have a meaningful impact on EBITDA as EIP accounting allows them to largely match equipment revenues with the cost of the device."⁶⁵

59. Courts have recognized that variances of less than 5% from a company's earnings or other financial metrics are "presumptively" immaterial or are likely to be viewed as immaterial.⁶⁶ This is consistent with the financial principle that a change that does not affect the market's expectation of the discounted value of future cash flows would not be expected to affect the stock price. As described in more detail below, analyst reports suggest that the market did not perceive a reduction in equipment revenue as having a negative impact on the discounted value of expected future cash flows, as none of the analysts lowered their price targets when they reduced their upgrade rate / equipment revenue estimates. In addition, Plaintiff's experts have provided no reliable evidence that a reduction in equipment revenue (which the market understood was essentially "pass-through" revenue) would have a negative impact on the discounted value of expected future cash flows or on AT&T's stock price.

IX. THE MARKET UNDERSTOOD BEFORE THE ALLEGEDLY IMPROPER DISCLOSURES THAT UPGRADE RATES WERE DECLINING, LEADING TO LOWER EQUIPMENT REVENUE

60. In an efficient market, disclosures of information that is already publicly known to the market could not have price impact because the information would have already been impounded into the stock price. The fact that upgrade rates were declining, leading to lower

⁶⁵ UBS analyst report on Wireless Telecommunications industry, "What longer upgrade cycles mean for the carriers," dated March 18, 2016, pp. 4, 6, 9.

⁶⁶ See, e.g., *In re Lone Pine Res., Inc.*, 2014 WL 1259653, at *4 (S.D.N.Y. Mar. 27, 2014) ("An omission or misstatement that has an impact of less than 5% on a company's reported financial metrics is presumptively immaterial."); *In re Aceto Corp. Secs. Litig.*, 2019 WL 3606745, at *4 (E.D.N.Y. Aug. 6, 2019) (less than 5% of earnings "presumed" immaterial).

equipment revenue for wireless telecommunication services companies, was publicly known before the Allegedly Improper Disclosures.

A. The industry-wide shift away from the subsidy model, which resulted in customers keeping their phones longer, was known to the market before the Allegedly Improper Disclosures

61. The industry-wide shift away from the subsidy model, which resulted in customers keeping their phones longer, was disclosed by AT&T and its peers, was reported in the media, and was observable to customers.

62. AT&T and its peers discussed the industry-wide shift away from the subsidy model in various disclosures throughout 2015 and early 2016. For example:

[J]ust one year ago, we accelerated the shift to the no-device subsidy model for smartphones when we launched Mobile Share value plans. Customer response to these plans has been tremendous. About 60% of our postpaid smartphone subscribers already are on no-device subsidy plans. [AT&T 1Q15 Earnings Call, 4/22/15, emphasis added]

We have been doing EIP since 2010, so we have been doing it much longer than any other carrier. It was an innovation that we brought to the US marketplace... **now you are seeing everyone have meaningful penetration from an EIP standpoint.** [T-Mobile at JPMorgan Conference, 5/18/15, emphasis added]

Our wireless strategy is working. Our **efforts to reposition the smartphone base to the no-subsidy model have taken hold.** We continue to see solid evidence that our efforts are paying off... The story of the last six quarters has been repositioning our smartphone [base]. This has moved subscribers away from the heavy handset subsidies in exchange for lower monthly pricing. [AT&T 2Q15 Earnings Call, 7/23/15, emphasis added]

[T]his move to installment – we've been sort of the last guys to go there... The market was clearly moving to installment-based, if you will, alternative payment schemas. [Verizon at Bank of America Merrill Lynch Conference, 9/9/15, emphasis added]

For those of you who probably have looked at the news, it is apparent to the market now that we are **eliminating subsidies** moving forward, which is **in line with the rest of the industry.** [Sprint at Citi Conference, 1/7/16, emphasis added]

Historically, wireless service providers offered customers wireless plans whereby, in exchange for the customer entering into a fixed-term service agreement, the wireless service providers significantly, and in some cases fully, subsidized the

customer's device purchase. Wireless providers recovered those subsidies through higher service fees as compared to those paid by customers on device installment plans. **We and many other wireless providers have limited or discontinued the use of device subsidies.** As a result of the increased penetration of device installment plans, we expect the number of customers on plans with unsubsidized service pricing to continue to grow in 2016. [Verizon FY15 10-K, 2/23/16, emphasis added]

63. AT&T and its peers disclosed that the shift away from the subsidy model resulted in customers keeping their phones longer. For example:

And instead of a customer believing that they're getting this device that only costs \$199 and it is an amazing and isn't it amazing what it does for \$199, and they now understand that this device really has a higher economic value. And **they're seeing what the true cost is of it, and as a result they're making rational decisions because of that.** And that rational decision is many of them are no longer thinking that they want to upgrade it every 12 months or 18 months. They're taking care of it. They're going, wow, this isn't a \$199 device; this is a \$600 device. I better care for it more carefully. I better do some things differently with my children. And as a result of that, **renewal cycles on that very capable device are extending.** And I think the other reason they're extending is the differentiation between the hardware, and the ecosystems supported on those hardwares is converging. There isn't this huge gap. The next new device doesn't do that much different, and so folks are being judicious about making those decisions, saying I can hang onto a device longer. [AT&T at Morgan Stanley Conference, 3/2/16, emphasis added]

Under the old subsidized model, everybody assumed the phone was a throw away. There was zero transparency as to the true value of these, but when you're buying it or you are leasing it, that transparency is now very well understood by the US consumer. And what's resulting in this is actually a **lengthening of the handset lifecycle to longer ownership periods.** [T-Mobile at Deutsche Bank Conference, 3/7/16, emphasis added]

64. The industry-wide shift away from the subsidy model, and the fact that it resulted in customers keeping their phones longer, was reported in the media. For example:

With upgrades and subsidized phones out of the picture, there's a **big incentive to protect that phone and squeeze more than just two years out of it.** ["Cell Phone Contracts are Dead," *Money*, 8/13/15, emphasis added]

The big change in wireless plans began with the departure from the two-year contract, which was a standard plan several years ago. Under the contract, people paid a one-time subsidized price for a cellphone upfront, and then a monthly fee for a wireless plan, including minutes, text messages and data. After two years, you would be eligible to buy a new phone at a subsidized rate and you would continue to pay the same monthly wireless fee, whether you upgraded to a

new phone or not. **In 2013, T-Mobile said it would abandon the two-year contract** to make phone plans cheaper and more transparent, while eliminating annoying charges like termination fees. T-Mobile instead chose to break out the full cost of a phone from the cost of the data plan. **AT&T, Verizon Wireless and Sprint soon followed suit.** [“Making Sense of Cellphone Plans,” *The New York Times*, 9/3/15, emphasis added]

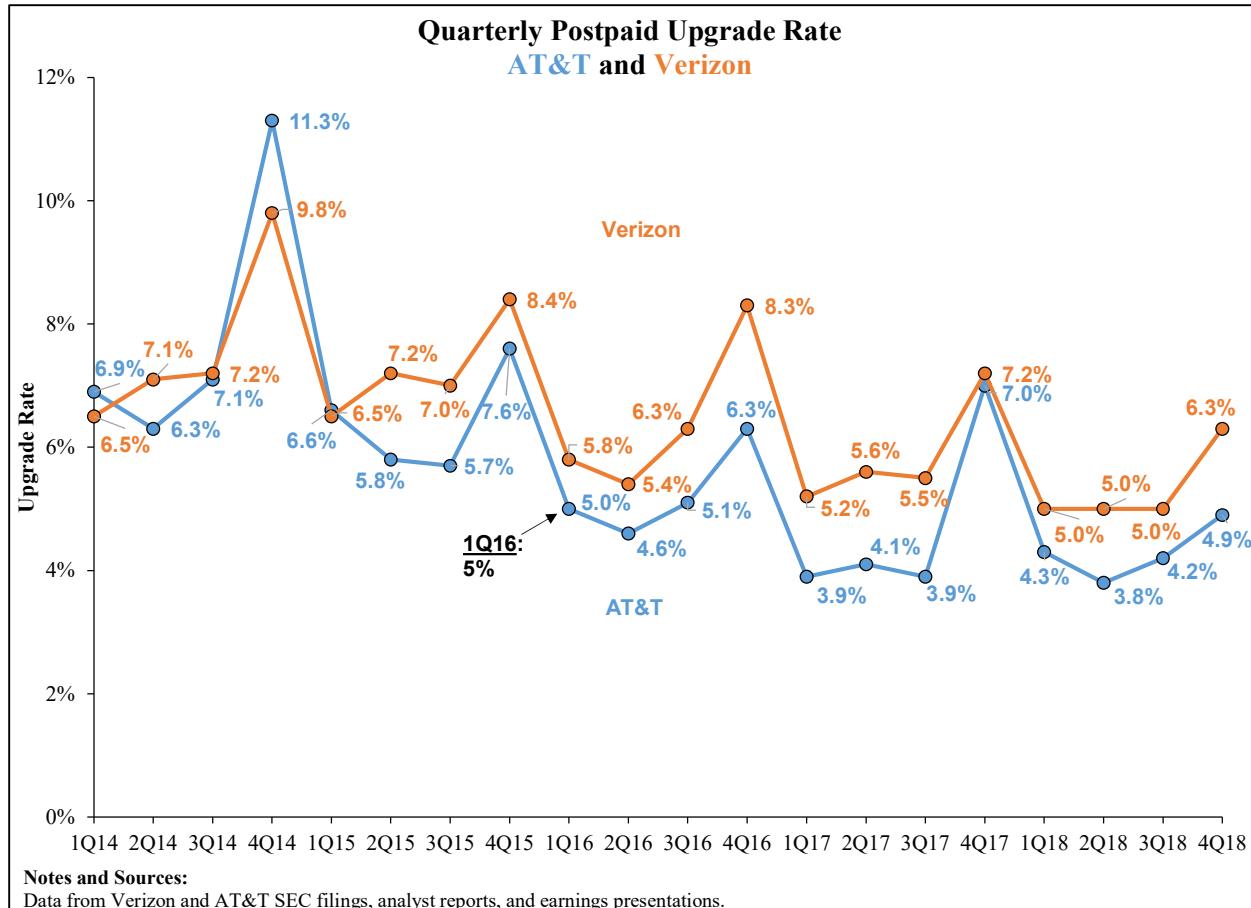
“Sprint and T-Mobile are both trying to undercut each other and trying to persuade you to keep your phone for more than two years,” says Louis Ramirez, senior editor at DealNews.com. Most carriers are moving toward an unsubsidized model where you can make monthly payments for your phone. [“Why you should upgrade your iPhone every 3 years; Consumers can save 30% on their monthly costs by holding out,” *MarketWatch*, 9/25/15, emphasis added]

In the past, smartphones plans worked like this: You would pay a one-time down payment for a phone and sign a two-year contract, which included the costs of wireless service combined with the remaining cost of the device... Now the **wireless industry has shifted toward so-called equipment installment plans**, which state the phone's actual cost and let you spread out the payments over monthly installments. [“Lease a Smartphone or Buy It? The Pros and Cons,” *The New York Times*, 10/22/15, emphasis added]

65. The industry-wide shift to EIP was observable to customers purchasing mobile phones during this period. Analysts wanting to understand industry-wide trends could survey customers. For example, the UBS analysts covering AT&T discussed the findings of a proprietary Evidence Lab Survey in a March 2, 2016 report.⁶⁷ A sample of approximately 2,000 U.S. consumers were surveyed on questions such as the level of satisfaction with current wireless service providers and the likelihood of switching providers in the next 12 months. The survey was a follow-up to previous surveys in May 2015 and November 2014.

66. Industry-wide trends in upgrade rates for AT&T and its peers were known to the market. For example, the chart below compares upgrade rates at AT&T and Verizon. The chart shows that the two companies experienced similar trends in quarterly upgrade rates over the period from 2014 to 2018.

⁶⁷ UBS analyst report on US Wireless industry, “UBS Evidence Lab: Switching intent on the rise,” dated March 2, 2016.



B. Both AT&T and Verizon commented on the slowdown in the upgrade cycle at the DB Conference

67. Mr. Stephens stated at the March 9, 2016 DB Conference that there was “a slowdown in the handset upgrade cycle” in 4Q15 and that he “wouldn’t be surprised to see that continue.”⁶⁸ Deutsche Bank’s analyst report with highlights from the conference states, “Handset cycles appear to be lengthening.”⁶⁹

68. During Verizon’s presentation at the same Deutsche Bank conference, Verizon’s CFO stated that upgrade volumes had declined year-over-year during the fourth quarter of 2015

⁶⁸ AT&T at Deutsche Bank Media, Internet, & Telecom Conference, March 9, 2016, p. 3.

⁶⁹ Deutsche Bank analyst report on MIT Conference Highlights, “Top Industry Themes and Company Takeaways,” dated March 15, 2016, p. 7.

and that “I think you’re going to see steady as she goes from an upgrade perspective” until a significantly improved handset model became available:⁷⁰

As far as the upgrade cycle goes, look, last year mid-year, I said that the volume in the fourth quarter would be less than a year ago and it was. I think **until we see a massive change in technology** in [the] handset[,] I think you’re going to see **steady as she goes** from an upgrade perspective.

C. The 1Q16 reported decline in the upgrade rate is consistent with AT&T’s comments at the DB Conference

69. There are different ways that one could extrapolate from past trends to estimate an upgrade rate for 1Q16 based upon Mr. Stephens’ comment that he “wouldn’t be surprised to see [the slowdown in the handset upgrade cycle] continue.”⁷¹ A continuation of the observed slowdown in the handset upgrade cycle would imply further declines in the upgrade rate relative to historical experience. For example, the table below shows that the average upgrade across all four quarters of 2015 was 6.4%, 18.7% lower than the average quarterly upgrade rate of 7.9% in 2014. If one applied that percentage change to the 1Q15 upgrade rate, one could estimate a 1Q16 upgrade rate of 5.4% (slightly higher than the 1Q16 reported rate of 5.0%). If instead only the upgrade rates from the last two quarters of each year were used to calculate the percentage change, one could estimate a 1Q16 upgrade rate of 4.8% (slightly lower than the 1Q16 reported rate of 5.0%). While these different assumptions result in different estimates, they all show substantial declines in the upgrade rate.

⁷⁰ Verizon at Deutsche Bank Media, Internet and Telecom Conference, March 8, 2016, p. 16, emphasis added.

⁷¹ AT&T at Deutsche Bank Media, Internet, & Telecom Conference, March 9, 2016, p. 3.

**Extrapolating 1Q16 Upgrade Rate Using YoY Change
for Alternative Extrapolation Periods**

Extrapolation Period	2014 Qtr. Avg.	2015 Qtr. Avg.	YoY Change	1Q15 Upgrade Rate	Extrapolated 1Q16 Rate
(1)	(2)	(3)	(4) =(3)/(2)-1	(5)	(6) =(5)×[1+(4)]
Q3 to Q4	9.2%	6.7%	-27.7%	6.6%	4.8%
Q2 to Q4	8.2%	6.4%	-22.7%	6.6%	5.1%
Q1 to Q4	7.9%	6.4%	-18.7%	6.6%	5.4%

Source:

Data on AT&T upgrade rates from BMO analyst report on AT&T dated January 28, 2015 and RBC analyst report on AT&T dated March 30, 2016.

X. ANALYSIS OF THE MARKET IMPACT OF AT&T'S EQUIPMENT REVENUE MISS JUST ONE QUARTER BEFORE THE ALLEGEDLY IMPROPER DISCLOSURES PROVIDES DIRECT EVIDENCE THAT THE INFORMATION ALLEGEDLY DISCLOSED WAS NOT MATERIAL

70. Plaintiff alleges that analysts reduced their 1Q16 equipment revenue estimates for AT&T by approximately \$800 million following the Allegedly Improper Disclosures. The lack of a statistically significant price reaction to an equipment revenue miss of similar magnitude in the quarter just prior to the Allegedly Improper Disclosures provides direct evidence that the information allegedly disclosed was not material.

71. Plaintiff alleges that, but for the Allegedly Improper Disclosures, there would have been an equipment revenue miss of approximately \$800 million in 1Q16, as shown in the table below. In the previous quarter, 4Q15, there was an equipment revenue miss of approximately \$600 million. 4Q15 EPS was reported to be in line with analysts' expectations, and there was no change in AT&T's guidance.⁷² The 4Q15 therefore provides a natural

⁷² See, for example, Baird analyst report on AT&T, "Mixed Q4; Cash Flow Outlook Solid," dated January 27, 2016 ("On January 26 after the close, T reported mixed Q4 results, with lighter revenue and in-line EPS. The company reiterated its previous 2016 guidance [.]").

experiment for how AT&T's stock price would have reacted to an equipment revenue miss in 1Q16 but for the analysts' revisions to their estimates.

AT&T Equipment Revenue 4Q15 Surprise vs. 1Q16 Analyst Revision (\$ in Millions)					
4Q15 Consensus vs. Actual			1Q16 Avg. Analyst Estimate		
Consensus	Actual	\$ Surprise	Old	New	\$ Change
(1)	(2)	(3) =(2)-(1)	(4)	(5)	(6) =(5)-(4)
\$4,662 ¹	\$4,071 ¹	-\$591	\$3,589 ²	\$2,799 ²	-\$790

Notes and Sources:

Data from SEC's Complaint filed March 5, 2021 and AT&T 1Q15 Earnings Press Release dated April 22, 2015.

¹ Data from Goldman Sachs analyst report dated January 27, 2016.

² Based on the 18 analysts named in the SEC's pleadings that reported 1Q16 equipment revenue growth estimates before and after the calls with AT&T IR employees. Dollar equipment revenue estimates calculated by applying old and new year-over-year growth rates to AT&T's 1Q15 wireless equipment revenue.

72. I performed an event study of the 4Q15 earnings release and found no statistically significant price reaction to the reported revenue miss.⁷³ This is unsurprising given that the market understood that equipment revenue is essentially “pass-through” revenue with no material impact on AT&T’s bottom line. For example, a Cowen analyst reported that “Optically revenue appeared low, however equipment revenue came in light on low 4Q upgrades (7.3%) and outsized BYOD adds (672K adds, ~350K from handset vendor programs), both preferable reasons to miss top-line.”⁷⁴ The fact that this announcement did not cause any stock price reaction demonstrates that the equipment revenue miss was not important to the market’s valuation of AT&T’s stock and therefore an equipment revenue miss of similar magnitude in 1Q16 would not be expected to have an impact either. I note that none of Plaintiff’s experts have addressed the lack of a stock price reaction to AT&T’s 4Q15 earnings release.

⁷³ See Appendix C for details.

⁷⁴ Cowen analyst report on AT&T, “Good 4Q15 As Guidance Could Prove Conservative On Both Rev. And Cost Synergies,” dated January 27, 2016, p. 1.

XI. ANALYSIS OF THE MARKET IMPACT OF EACH OF THE 20 INDIVIDUAL ANALYST REPORTS IDENTIFIED BY THE PLAINTIFF SHOWS THAT NO NEGATIVE IMPACT CAN BE ATTRIBUTED TO THE ANALYSTS' REVISIONS IN UPGRADE RATES / EQUIPMENT REVENUE

73. A review of how the market reacted to the information in analyst reports published following the Allegedly Improper Disclosures contradicts Plaintiff's claim that the information allegedly disclosed was material as alleged. If Plaintiff's claim were true, and the Allegedly Improper Disclosures were important to the market's valuation of AT&T and its stock, then according to Plaintiff's theory, the stock price should have declined when analysts' revisions in upgrade rates / equipment revenue became public. Instead, I find that there was no negative, statistically significant price reaction in AT&T's stock price following the analysts' revisions.⁷⁵

74. I tested each individual price reaction following publication of an analyst report. When analyzing the statistical significance of a price reaction to an event, the 95% statistical confidence level (i.e., the 5% statistical significance level) is the commonly applied standard.⁷⁶ Using the 95% confidence level means that there is a 5% chance of finding a statistically significant price reaction when there is no company-specific news of importance to the market, and the stock price moves solely due to its normal daily fluctuations. In other words, for every 100 price reactions analyzed at the 95% confidence level, on average, 5 will be statistically significant for no reason other than the normal daily variation in the stock price.

75. An issue arises when a large number of price reactions are tested for statistical significance, since the more price reactions that are tested, the greater the probability of finding statistical significance simply due to chance (*i.e.*, when there is no company-specific news of

⁷⁵ See Appendix D for details.

⁷⁶ The 95% level is the level most commonly applied by courts and academics to test statistical significance. For a discussion of confidence levels, *see, for example*, David H. Kaye & David A. Freedman, "Reference Guide on Statistics," *Reference Manual on Scientific Evidence*, (Federal Judicial Center, 3rd ed., 2011), 243-246; Franklin M. Fisher, "Multiple Regression in Legal Proceedings," 80 *Columbia Law Review* 702 (1980), 717.

importance to the market).⁷⁷ This issue is known in statistics as “multiple comparisons.” As one popular scientific publication explains, “Many scientific papers make 20 or 40 or even hundreds of comparisons.” In such instances, researchers “are *virtually guaranteed* to find statistical significance [at the 95% confidence level] in results that are *meaningless statistical flukes*.⁷⁸ Textbooks and other academic sources describe the issue of multiple comparisons similarly: when multiple tests of statistical significance are done without any adjustment, finding a spurious statistically significant result is not surprising.⁷⁹

76. A standard and commonly accepted method to correct for the multiple comparisons problem is the Holm-Bonferroni adjustment.⁸⁰ The Holm-Bonferroni adjustment is based on the number of tests performed so that the overall statistical significance takes into account the number of tests performed and adjusts the statistical threshold of individual tests accordingly.⁸¹

⁷⁷ As an illustrative example, imagine rolling a 20-sided die with 19 white sides and 1 red side. If the die is rolled once, it would be surprising if the die landed red-side up since the likelihood of this occurring is only 5% (1 out of 20). However, if the die is rolled 100 times, it would be much less surprising that the die landed red-side up at least 1 time since, on average, the die should land red-side up 5 times for every 100 rolls.

⁷⁸ Charles Seife, “The Mind-Reading Salmon,” *Scientific American*, Aug. 2011, 30 (emphasis added). The article goes on to provide the example of neuroscientists who presented a salmon with pictures of people expressing emotions and found that certain regions of the fish’s brain lit up when certain types of pictures were shown. The result was statistically significant at the 99.9% confidence level. Yet, as the neuroscientists pointed out, “there are so many possible patterns that a statistically significant result was virtually guaranteed, so the result was totally worthless.” Further emphasizing the meaningless result is the fact that the fish was dead. *Id.*

⁷⁹ See, for example, John A. Rice, *Mathematical Statistics and Data Analysis*, (3rd ed.), 458 (“Suppose that 100 independent two-sample t tests are conducted at the .05 level and that, in fact, all the null hypotheses are true. We would expect that five of the tests would produce a ‘significant’ result.”); “Reference Guide on Statistics,” *Reference Manual on Scientific Evidence*, (Federal Judicial Center, 3rd ed., 2011), 290 (“[M]ultiple comparison. Making several statistical tests on the same data set. Multiple comparisons complicate the interpretation of a p value. For example, if 20 divisions of a company are examined, and one division is found to have a disparity ‘significant’ at the 0.05 level, the result is not surprising; indeed, it should be expected under the null hypothesis.”). See also Peter C. Austin et al., “Testing multiple statistical hypotheses resulted in spurious associations: a study of astrological signs and health,” *Journal of Clinical Epidemiology* 59 (2006), 964-969; Hervé Abdi, “Bonferroni test” in *Encyclopedia of Measurement and Statistics*, edited by Neil J. Salkind (Sage, 2007), 103-107; David Tabak “Multiple Comparisons and the Known or Potential Error Rate,” *Journal of Forensic Economics* 19(2), 2006, 231-236.

⁸⁰ See, for example, Memorandum Opinion and Order, *The Erica P. John Fund, Inc. v. Halliburton Company and David J. Lesar* (3:02-CV-1152-M), filed July 25, 2015, which states “The Court is persuaded that the use of a multiple comparison adjustment is proper in this case because of the substantial number of comparisons... the Court finds that applying a Holm-Bonferroni multiple comparison adjustment is appropriate in this case.”

⁸¹ See, for example, Aickin, Mike and Helen Gensler, “Adjusting for Multiple Testing when Reporting Research Results: The Bonferroni vs Holm Methods,” *American Journal of Public Health*, 86(5): 1996.

77. The table below reports the results of the individual event studies for the publication of the analyst reports in question, both before and after adjusting for multiple comparisons (“MC”). Before adjusting for multiple comparisons, none of the event studies show a statistically significant, negative stock price reaction.⁸² There is a statistically significant, *positive* price reaction following publication of four analyst reports on April 7, 2016. However, after adjusting for multiple comparisons, there are no statistically significant price reactions following publication of any of the analyst reports. In addition, the table shows that *none* of the analysts lowered their price targets when they reduced their upgrade rate / equipment revenue estimates – meaning these changes did not materially reduce the analysts’ expectations for what the company’s stock price would be in a certain time period.

⁸² For the event study of AT&T’s stock, the S&P 500 Index (excluding AT&T) was used to control for market movements, and a market-cap-weighted index of AT&T’s peer companies (Verizon, T-Mobile, and Sprint) was used to control for industry movements. A control period of 252 trading days (approximately one year) prior to each event tested was used. An alternate specification using only Verizon (rather than all three peers) to control for industry movements was also used, with no qualitative difference in the results.

Analyst Estimate Revision Dates Identified in the SEC Complaint

	Date (1)	Analyst (2)	Stat. Sig. Price Reaction? ¹		Analyst Lowered Price Target? (5)
			Before MC Adjustment (3)	After MC Adjustment (4)	
1.	3/18/16	UBS	No	No	No
2.	3/21/16	Deutsche Bank	No	No	No
3.	3/22/16	JP Morgan	No	No	No
4.	3/22/16	Oppenheimer	No	No	No
5.	3/28/16	Wells Fargo	No	No	No
6.	3/30/16	RBC	No	No	No
7.	3/31/16	Baird	No	No	No
8.	3/31/16	Drexel Hamilton	No	No	No
9.	4/7/16	BTIG	Yes	No	N/A ²
10.	4/7/16	Citi	Yes	No	No
11.	4/7/16	Jefferies	Yes	No	No
12.	4/7/16	Moffett	Yes	No	No
13.	4/11/16	Evercore	No	No	No
14.	4/13/16	D.A. Davidson	No	No	No
15.	4/18/16	Bank of America	No	No	No
16.	4/19/16	Nomura	No	No	No
17.	4/19/16	Pacific Crest	No	No	N/A ²
18.	4/19/16	Scotiabank	No	No	No
19.	4/25/16	Buckingham	No	No	No
20.	4/25/16	William Blair	No	No	N/A ²

Notes and Sources:

Data from AT&T analyst reports.

¹ Based on a market model that controls for returns of the S&P 500 index (excluding AT&T) and returns of a market-cap-weighted index of AT&T's peer companies (Verizon, T-Mobile, and Sprint) and uses 252 days before each event date as control periods.

² Analyst did not provide price target for AT&T.

XII. STATISTICAL TESTS OF AT&T'S STOCK PRICE MOVEMENTS FROM EACH DAY IN THE ALLEGEDLY IMPROPER DISCLOSURE PERIOD THROUGH THE 1Q16 EARNINGS ANNOUNCEMENT DEMONSTRATE THAT NO ECONOMIC ADVANTAGE COULD BE GAINED FROM THE INFORMATION ALLEGEDLY DISCLOSED

78. An analysis of cumulative abnormal returns during days before a major corporate announcement is often used in the academic literature to test for information leakage.⁸³ I test the cumulative abnormal return over every period that begins with a day within the Allegedly Improper Disclosure Period and ends with the 1Q16 earnings announcement. I find there is no statistically significant cumulative stock price reaction over any of the periods.⁸⁴ This demonstrates that no economic advantage could be gained from the information allegedly disclosed to analysts – i.e., there is no evidence that anyone could have made money or avoided losses based on the information allegedly disclosed.

⁸³ See, for example, Keown, Arthur J. and John M. Pinkerton, “Merger Announcements and Insider Trading Activity: An Empirical Investigation,” *The Journal of Finance*, 1981. See, also, Agapova, Anna and Jeff Madura, “Information Leakage Prior to Company Issued Guidance,” *Financial Management*, 2011.

⁸⁴ See Appendix E for details.

**Statistical Tests of Cumulative Excess Returns
from Each Day in the Allegedly Improper Disclosure Period
through 1Q16 Earnings Announcement**

Date	Cumulative Excess Return through 1Q16 Earnings ¹	Statistically Significant? ²
(1)	(2)	(3)
3/9/16	-0.89%	No
3/10/16	-0.60%	No
3/11/16	-1.66%	No
3/14/16	-1.08%	No
3/15/16	-1.03%	No
3/16/16	-1.60%	No
3/17/16	-1.55%	No
3/18/16	-2.02%	No
3/21/16	-0.82%	No
3/22/16	-1.48%	No
3/23/16	-0.75%	No
3/24/16	-1.03%	No
3/28/16	-1.29%	No
3/29/16	-1.80%	No
3/30/16	-1.66%	No
3/31/16	-1.26%	No
4/1/16	-0.71%	No
4/4/16	0.05%	No
4/5/16	-0.55%	No
4/6/16	-0.58%	No
4/7/16	-0.01%	No
4/8/16	-1.32%	No
4/11/16	-0.84%	No
4/12/16	-1.03%	No
4/13/16	-1.10%	No
4/14/16	-0.22%	No
4/15/16	-0.49%	No
4/18/16	-0.46%	No
4/19/16	-0.41%	No
4/20/16	-0.52%	No
4/21/16	-0.02%	No
4/22/16	0.78%	No
4/25/16	0.75%	No
4/26/16	0.74%	No
4/27/16	0.56%	No

Notes and Sources:

Data from Bloomberg, L.P.

¹ Excess return calculated by subtracting predicted return from actual AT&T return. Predicted return calculated by regressing returns of AT&T stock on the returns of the S&P 500 (excluding AT&T's contribution) and the returns of a peer index over a rolling control period 252 days before each event tested. The peer index is a market-cap-weighted index of Verizon, T-Mobile, and Sprint.

² Significance is based on the price reaction's t-statistic, calculated as: $CER \div \sqrt{\sum(s_1^2, s_2^2, \dots, s_n^2)}$, where CER is the cumulative excess return and $\sum(s_1^2, s_2^2, \dots, s_n^2)$ is the sum of the squared standard errors of each rolling regression.

XIII. PLAINTIFF'S EXPERTS OFFER NO RELIABLE EVIDENCE THAT THE INFORMATION ALLEGEDLY DISCLOSED WAS MATERIAL AS ALLEGED

A. The DiBucci Report's claim that a lower upgrade rate and lower equipment revenue would benefit AT&T is inconsistent with Plaintiff's allegations

79. The DiBucci Report opines on “the impact of wireless equipment revenues and upgrade rates on AT&T’s financial results and operating performance as of the first quarter of 2016” and concludes that AT&T loses money on each device sale.⁸⁵ The DiBucci Report states, “Since AT&T incurs a loss on each device sale, a reduction in device upgrade volumes will reduce the net loss and therefore improve net profits and margins.”⁸⁶ The DiBucci Report also states that a lower upgrade rate and lower equipment revenue serves to increase AT&T’s EBITDA.⁸⁷ These statements appear to imply that, all else equal, a lower-than-expected upgrade rate and equipment revenue should have a *positive* impact on AT&T’s stock price. This is inconsistent with Plaintiff’s allegations, as Plaintiff claims that the Allegedly Improper Disclosures were made to avoid a revenue miss, which Plaintiff claims would have been viewed as “negative news” for AT&T.⁸⁸

80. The DiBucci Report moreover focuses on the accounting treatment of an unsubsidized phone sale for a given quarter, while ignoring the overall economic impact of the sale during the life of the installment period. For example, the DiBucci Report’s calculation of the alleged “loss” per device does not appear to consider the impact of interest revenue that the company recognizes as installment payments are made during the installment period.⁸⁹ Because the market’s expectation of future cash flows is what determines market value, the fact that a particular transaction or revenue stream shows an accounting profit or loss for a given quarter is not determinative as to how the market values the total effect of that transaction or revenue

⁸⁵ DiBucci Report, ¶7.

⁸⁶ DiBucci Report, ¶43.

⁸⁷ DiBucci Report, ¶47.

⁸⁸ Complaint, ¶21.

⁸⁹ Defendant’s Supplemental Responses and Objections to Plaintiff’s First Interrogatories, February 22, 2022, p. 11 and Exhibit 1.

stream. Instead, it is the overall economic impact of the transaction or revenue stream on the discounted value of future cash flows that matters. By focusing on the accounting treatment in a given quarter, the DiBucci Report provides no reliable evidence to assess the importance of information regarding equipment revenue to the market or the likely impact on the stock price. Indeed, *none* of the SEC’s experts have provided any reliable evidence showing that information regarding equipment revenue had any impact on the stock price.

81. The DiBucci Supplemental Report includes in Appendix C a calculation of the “earnings impact of AT&T’s Next transactions using the methodology applied by AT&T in its interrogatory Response, but adjusting for the per-phone guarantee liability, imputed interest, and device cost assumptions that AT&T reported.”⁹⁰ The DiBucci Supplemental Report states that including interest revenue in the calculation “artificially inflates the positive impact of installment plan sales on profitability” and that there is “no basis under applicable accounting principles or in logic to consider these future payments when assessing the impact of AT&T’s equipment sales on its reported profitability *during the reporting period at issue.*”⁹¹

82. While I have not been asked to verify the DiBucci Supplemental Report’s assumptions, analysis, and results, the table below shows that using the DiBucci Supplemental Report’s own calculations,⁹² and excluding all interest revenue, the lower equipment upgrade rate in 1Q16 would imply an increase in EPS of \$0.020-\$0.027. On the other hand, as shown in the table below, analysts’ consensus 1Q16 EPS estimates remained relatively flat over the Allegedly Improper Disclosure Period, increasing by only \$0.001 – much smaller than the impact implied by the DiBucci Supplemental Report’s calculations. This not only shows that the market understood that changes in equipment revenue do not have any meaningful impact on AT&T’s earnings, but also suggests that the calculations in the DiBucci Supplemental Report overstate the impact of equipment revenue on AT&T’s earnings.

⁹⁰ DiBucci Supplemental Report, ¶9.

⁹¹ DiBucci Supplemental Report, ¶12, emphasis added.

⁹² The DiBucci Supplemental Report’s “Adjustment 1” and “Adjustment 2” refer to two different assumptions regarding the per-phone guarantee liability. See DiBucci Supplemental Report, ¶9 and Appendix C.

Implications of DiBucci's "Earnings Impact" Analysis on AT&T 1Q16 EPS							
DiBucci Earnings Impact	Equipment Revenue	Margin	Avg. Reduction in Equip. Rev. Estimates by Analysts¹	Applying Margin to Avg. Reduction	DiBucci Implied EPS Impact²	Actual Change in Consensus	EPS Estimate³
(1)	(2)	(3)	(4)	(5) =(4)×(3)	(6) =(5)/6.2B	(7)	
DiBucci Supplemental Report							
Adjustment 1	-\$186 M	\$2,322 M	-8.01%	-\$790 M	\$63 M	\$0.010	\$0.001
Adjustment 2	-\$292 M	\$2,216 M	-13.17%	-\$790 M	\$104 M	\$0.017	\$0.001
DiBucci Supplemental Report (excluding "Interest Revenue")							
Adjustment 1	-\$359 M	\$2,322 M	-15.46%	-\$790 M	\$122 M	\$0.020	\$0.001
Adjustment 2	-\$465 M	\$2,216 M	-20.98%	-\$790 M	\$166 M	\$0.027	\$0.001
Notes and Sources:							
Earnings impact and equipment revenue data from Appendix C of DiBucci Supplemental Report.							
¹ Reduction in equipment revenue estimate by each analyst calculated by applying new and old year-over-year "ER" growth rate reported in Complaint, pp. 16-17 to AT&T's 1Q15 wireless equipment revenue.							
² AT&T shares outstanding of 6.2 billion from AT&T 1Q16 earnings press release dated April 26, 2016. The analysis does not account for any potential tax impact. EPS impact would be lower after accounting for potential tax impact.							
³ Changes in consensus estimate before and after the Alleged Improper Disclosure Period.							

B. The Wolk Report is internally inconsistent with respect to the direction of any claimed impact of a lower upgrade rate and lower equipment revenue

83. The Wolk Report opines on, among other topics, whether a reasonable analyst would consider the information allegedly conveyed by AT&T to analysts as “information that altered the total mix of information available to investors and whether it was nonpublic.”⁹³ The Wolk Report concludes that “a reasonable analyst would have considered the information significant to the mix of total information available to investors.”⁹⁴ However, the Wolk Report is internally inconsistent as to whether the information would have been viewed as positive or negative.

84. The Wolk Report includes several statements that appears to imply that, all else equal, a lower-than-expected upgrade rate and equipment revenue should have a *positive* impact

⁹³ Wolk Report, p. 1.

⁹⁴ Wolk Report, p. 2.

on AT&T's stock price. For example, the Wolk Report states that AT&T's actual financial results show that the company "lost money on its sales of wireless equipment."⁹⁵ The Wolk Report calculates a potential EBITDA margin of -48% for Wireless Equipment Revenue in 1Q16.⁹⁶ In addition, the Wolk Report states, based upon a review of analyst models, that analysts' "EPS forecasts should have *increased* due to Equipment Revenue weakness."⁹⁷

85. Nonetheless, other statements in the Wolk Report appear to imply that the information allegedly conveyed to analysts should have a *negative* impact on AT&T's share price. For example, the Wolk Report claims that market participants "viewed Revenue misses as significant," citing to a few headlines in 2016 ascribing share price declines to revenue misses.⁹⁸ In addition, the Wolk Report states:⁹⁹

My review of analyst reports revealed that, on average, analysts continued to recommend the stock as the **downside of AT&T's private, negative disclosures** about Wireless Equipment were offset by optimism about the long-term "growth story" of its DIRECTV acquisition.

86. Thus, the basis for the Wolk Report's opinion that the information allegedly disclosed to analysts was "significant" is belied by these contradictory statements as to whether the information would have viewed as positive or negative.

87. The Wolk Report also replicates the same flaw as the DiBucci Report in focusing on the accounting treatment of a phone sale for a given quarter, while ignoring the overall expected economic impact of the sale during the life of the installment period. By focusing on the accounting treatment in a given quarter, the Wolk Report provides no reliable evidence to assess the importance of information regarding equipment revenue to the market or the likely impact on the stock price. As previously stated, none of the SEC's experts have provided any reliable evidence showing that information regarding equipment revenue had any impact on the stock price.

⁹⁵ Wolk Report, p. 32.

⁹⁶ Wolk Report, p. 33.

⁹⁷ Wolk Report, p. 46.

⁹⁸ Wolk Report, p. 40.

⁹⁹ Wolk Report, p. 43, emphasis added.

C. The Cohen Report offers no reliable evidence that the information allegedly disclosed was material as alleged

88. The Cohen Report performs empirical analysis of the effect of revenue and earnings surprises on stock price returns and claims to find that revenue and EPS surprises each have significant and independent impacts on AT&T's stock price. The Cohen Report appears to imply that had AT&T missed revenue in 1Q16 (for example, due to a lower-than-expected upgrade rate and equipment revenue), AT&T's stock price would have had a negative price reaction all else equal (*i.e.*, consistent with Plaintiff's allegations but inconsistent with the DiBucci Report's findings).¹⁰⁰ However, the Cohen Report's analyses are flawed and misleading, and they do not provide any reliable evidence that the information allegedly disclosed was material as alleged.

1. The Cohen Report's "Large Sample Evidence" analysis is based on a sample that is overly broad for analyzing the materiality of the Allegedly Improper Disclosures as it ignores the fact that the market understood AT&T's equipment revenue to be essentially "pass-through" revenue

89. The Cohen Report analyzes a broad sample of earnings events from October 1998 through August 2021 for the "universe of publicly traded U.S. stocks."¹⁰¹ Based upon the results of a regression analysis, the Cohen Report concludes that "separate and apart from earnings missing or beating consensus, when public companies miss or beat revenue consensus, it moves the stock price for that company."¹⁰² The Cohen Report finds that the "positive coefficients imply that positive surprises are associated with significantly higher returns all else equal (and equivalently, negative surprises are associated with lower returns)."¹⁰³ However, this analysis relies on a sample of earnings events that is overly broad for analyzing the materiality of the Allegedly Improper Disclosures, rendering the results unreliable.

¹⁰⁰ For example, the Cohen Report states, "AT&T – on average – only realized positive returns over these time periods in the quarters in which it met or exceeded expectations on both earnings and revenues simultaneously. If it beat on one (but missed on the other), it experienced on average negative market reactions in those earnings-quarters." Cohen Report, p. 14.

¹⁰¹ Cohen Report, p. 11.

¹⁰² Cohen Report, p. 12.

¹⁰³ Cohen Report, pp. 11-12.

90. In particular, the “universe of publicly traded U.S. stocks” includes companies with substantially different business models than AT&T’s. The revenue at issue for AT&T is equipment revenue that the market understood to be essentially “pass-through” revenue. The revenue surprises analyzed in the Cohen Report are not limited to those involving “pass-through” equipment revenue, but rather include surprises involving other types of revenue and for companies with substantially different business models than AT&T. The Cohen Report provides no basis for its assumption that the results of such a broad-based analysis would be relevant to AT&T’s equipment revenue (which the market understood to be essentially “pass-through” revenue).

2. The Cohen Report’s “AT&T Evidence” analysis is based on a sample that is overly broad for analyzing the materiality of the Allegedly Improper Disclosures as it includes quarters before AT&T launched its EIP program and quarters after the closing of AT&T’s acquisition of Time Warner in mid-2018

91. The Cohen Report performs the same regression analysis using AT&T’s earnings history from 2001 to July 2021,¹⁰⁴ concluding that “separate and apart from earnings missing or beating consensus, in line with the large sample evidence, when AT&T misses or beats revenue consensus, it moves AT&T’s stock price.”¹⁰⁵ The Cohen Report also performs an analysis that codes AT&T’s earnings quarters non-parametrically based on whether AT&T beat or missed consensus forecasts (note that the Cohen Report’s analysis does not include a “meet” category – those are coded as a “beat”). The Cohen Report concludes based upon this analysis that “AT&T – on average – only realized positive returns over these time periods in the quarters in which it met or exceeded expectations on both earnings and revenue simultaneously.”¹⁰⁶ Note that these analyses are all based on AT&T’s total revenue, *not* its unsubsidized wireless equipment revenue, which the market understood to be essentially “pass-through” revenue. Moreover, as with the Cohen Report’s “Large Sample Evidence” analysis, these “AT&T Evidence” analyses

¹⁰⁴ Note that the Cohen Report includes earnings for both AT&T Corp and SBC Communications prior to their 2005 merger. See Cohen Report, p. 12.

¹⁰⁵ Cohen Report, p. 13.

¹⁰⁶ Cohen Report, p. 14.

rely on a sample of earnings events that is overly broad for analyzing the materiality of the Allegedly Improper Disclosures, rendering the results unreliable.

92. First, Cohen includes AT&T earnings quarters from earlier periods where AT&T's business model for wireless phones was substantially different than during the period at issue in this matter. As noted above, AT&T launched its EIP program in 2014 and announced an end to offering subsidized handsets for most of its customers in late 2015. The Cohen Report provides no basis for including earnings quarters from many years earlier, when the economics of customers' purchases of handsets was substantially different.

93. Additionally, the Cohen Report's analysis includes periods after AT&T completed its acquisition of Time Warner in mid-2018.¹⁰⁷ Following the initial announcement, an analyst covering AT&T characterized the acquisition as "transformative."¹⁰⁸ According to the analyst, the acquisition was "the first large-scale combination of mobile distribution and content."¹⁰⁹ The acquisition created a new segment within AT&T called "WarnerMedia" that made up 18% of the total revenue of the combined company in the third quarter of 2018.¹¹⁰ The Cohen Report provides no basis for including earnings quarters following this "transformative" acquisition.

3. The results of the Cohen Report's "AT&T Evidence" analysis are unreliable and do not hold when the sample of AT&T earnings quarters is limited to those prior to the closing of AT&T's acquisition of Time Warner in mid-2018

94. The results of the Cohen Report's "non-parametric estimates" analysis are unreliable, as can be determined through simple inspection of the tables and their underlying data. Moreover, the results do not hold when the sample of AT&T earnings quarters is limited to those prior to the closing of AT&T's acquisition of Time Warner in mid-2018.

¹⁰⁷ AT&T 3Q18 Form 10-Q, filed November 2, 2018, p. 13.

¹⁰⁸ Cowen analyst report on Telecom Services industry, "Wireless Quarterly – Post 3Q16," dated November 29, 2016.

¹⁰⁹ Cowen analyst report on Telecom Services industry, "Wireless Quarterly – Post 3Q16," dated November 29, 2016.

¹¹⁰ AT&T 3Q18 Form 10-Q, filed November 2, 2018, p. 15.

95. Based upon the Cohen Report’s “non-parametric estimates,” the Cohen Report claims:¹¹¹

In Q1 2016, AT&T ended up beating consensus forecasts on both revenue and EPS. Were they instead to have beaten on EPS, but missed revenue forecasts, it would have resulted in an expected earnings return that was anywhere from roughly 1.4%-2.7% lower.

96. The basis for this “2.7% lower” calculation, for example, comes from Table 6 of the Cohen Report, excerpted in the table below.

Excerpt of Cohen Report Table 6 Average Returns after Earnings Surprises				
EPS (1)	Revenue (2)	Count (3)	Avg. Earnings Day Return (4)	Avg. Earnings Day Excess Return (5)
Beat	Beat	8	2.39%	2.89%
Beat	Miss	11	-0.33%	-0.43%
		Difference	-2.72%	-3.32%

Notes and Sources:
Data from Table 6 of Cohen Report.

97. The Cohen Report finds that, for the 8 earnings quarters since 2015 when AT&T beat (or met) *both* the EPS and revenue consensus, the average stock price return was 2.39%, and for the 11 earnings quarters when AT&T beat (or met) the EPS consensus, but *missed* the revenue consensus, the average stock price return was -0.33% (which is approximately 2.7 percentage points lower than 2.39%).

98. First, as stated in the Cohen Report, AT&T beat the consensus forecasts for both revenue and EPS in 1Q16. Based upon the results of the Cohen Report’s analysis, one would expect a “positive” market reaction to such a result. Nonetheless, there was *no* statistically significant price reaction following the 1Q16 earnings announcement – meaning that the price reaction was within the range of normal expected daily variation in the stock price after controlling for market and industry movements, and thus cannot be statistically distinguished

¹¹¹ Cohen Report, p. 14.

from zero. Given the unreliability of the Cohen Report’s analysis in predicting what *did* happen in 1Q16, the Cohen Report’s claim that there would have been a “negative” market reaction had AT&T instead missed the revenue forecast is simply not credible. This is particularly true given that the revenue miss would have been driven by equipment revenue, which the market understood to be essentially “pass-through” revenue.

99. The Cohen Report’s result of an average stock price return of -0.33% for quarters when AT&T beat (or met) the EPS consensus, but missed the revenue consensus, is revealed to be unreliable based upon simple inspection of the underlying data, as shown in the table below. The table shows that there is substantial variation in the quarterly returns, with about half positive and the other half negative. There does not appear to be any clear pattern as to the direction of any claimed impact, and the sign of the average can easily change depending upon which earnings quarters are included. For example, the table shows that when the earnings quarters after AT&T’s purchase of Time Warner are excluded, the average stock price return for quarters when AT&T beat (or met) the EPS consensus, but missed the revenue consensus, is *positive*.

Analysis Based on Cohen Report Table 6
AT&T Stock Returns Following Earnings Announcements
With Revenue Miss And EPS Beat
Since 2015

Quarter	Revenue Surprise	EPS Surprise	Return	Cohen Excess Return¹
(1)	(2)	(3)	(4)	(5)
1Q15	-\$247 M	\$0.0133	4.17%	3.92%
2Q15	-\$40 M	\$0.0607	1.06%	2.13%
3Q15	-\$1,332 M	\$0.0524	-0.65%	-1.75%
2Q16	-\$96 M	\$0.0024	1.39%	0.93%
3Q16	-\$258 M	\$0.0018	-1.68%	-2.16%
1Q17	-\$1,168 M	\$0.0010	1.25%	1.30%
<hr/> <i>-----AT&T Acquired Time Warner in June 2018-----</i>				
2Q18	-\$400 M	\$0.0633	-4.51%	-5.43%
1Q19	-\$287 M	\$0.0019	-4.08%	-3.86%
3Q19	-\$407 M	\$0.0070	4.28%	3.72%
4Q19	-\$134 M	\$0.0208	-3.97%	-3.88%
2Q20	-\$149 M	\$0.0370	-0.86%	0.36%
<hr/>				<hr/>
Cohen Reported Average				-0.33%
Avg. After Removing Post-Acquisition Quarters				0.92%
<hr/>				<hr/>
-0.43%				0.73%

Notes and Sources:

Data from I/B/E/S obtained via FactSet.

¹ Calculated as AT&T stock return minus S&P 500 index return. See Cohen Report, p. 11.

100. The Cohen Report's analysis codes earnings quarters when AT&T met or beat the EPS consensus as a "beat." The table below replicates the Cohen Report's analysis, however limiting the sample of quarters to those where AT&T met the EPS consensus,¹¹² but missed the revenue consensus. This analysis shows that the average stock price return is *positive* for these earnings quarters.

¹¹² An earnings quarter is coded as "meet" if the absolute value of the EPS surprise is less than \$0.005.

Analysis Based on Cohen Report Table 6
AT&T Stock Returns Following Earnings Announcements
With Revenue Miss And EPS Meet
2015 Through 2017

Quarter	Revenue Surprise	EPS Surprise	Return	Cohen Excess Return¹
(1)	(2)	(3)	(4)	(5)
4Q15	-\$627 M	-\$0.0025	0.23%	1.31%
2Q16	-\$96 M	\$0.0024	1.39%	0.93%
3Q16	-\$258 M	\$0.0018	-1.68%	-2.16%
4Q16	-\$202 M	-\$0.0001	0.92%	0.99%
1Q17	-\$1,168 M	\$0.0010	1.25%	1.30%
		Average	0.42%	0.47%

Notes and Sources:

Data from I/B/E/S obtained via FactSet. An earnings quarter is coded as "meet" if the absolute value of the EPS surprise is less than \$0.005.

¹ Calculated as AT&T stock return minus S&P 500 index return. See Cohen Report, p. 11.

101. In sum, the Cohen Report's analyses are flawed and misleading and do not provide any reliable evidence that missing the revenue consensus in 1Q16 due to lower-than-expected equipment revenue would have had a negative impact on AT&T's stock price. In addition, the Cohen Report's analyses also reflect other arbitrary and/or non-standard choices.¹¹³

¹¹³ For example, to limit the "impact of extreme outliers" on the regressions performed in the analyses of revenue surprises, the Cohen Report winsorizes both the dependent and independent variables at the 3rd and 97th percentiles. See, Cohen Report, pp. 11-13. The choice of the 3rd and 97th percentiles appears arbitrary, and the Cohen Report does not indicate whether any sensitivity analyses were performed to test the robustness of the results. In fact, the Cohen Report is internally inconsistent in its choice of percentiles for winsorizing. In the Cohen Report's regression analysis of analyst revision behavior and call data, the dependent variable (the improvement ratio) is winsorized at the 95th percentile. See, Cohen Report, p. 24. Mr. Cohen used the 1st and 99th percentiles to winsorize in an article he and co-authors published in the *Journal of Political Economy*. See, Cohen, Lauren, Joshua Coval, and Christopher Malloy, "Do Powerful Politicians Cause Corporate Downsizing?", *Journal of Political Economy*, 119(6): 2011, p. 1025.

D. The Griffin Report’s findings are misleading as they are based on an inappropriate test and a flawed premise

102. The Griffin Report analyzes, among other issues, the changes made to analysts’ models subsequent to calls with AT&T, concluding:¹¹⁴

[S]ubsequent to AT&T’s contacts with equity analysts, **only handset upgrade rates**, and not other key revenue drivers in analysts’ models, **were systematically adjusted downward**. Moreover, equity analysts also systematically lowered their projections for AT&T’s Q1 2016 total revenue after contact with the IR team. The **probability** that these adjustments to total revenue occurred due to random chance is **less than 1 in 500 million**.

The Griffin Report’s findings are misleading as they are based on an inappropriate test and a flawed premise. Moreover, they contradict claims made in the DiBucci Report.

103. The Griffin Report claims that the probability that analysts’ revenue adjustments occurred due to random chance is “less than 1 in 500 million,” implying that these adjustments were attributable to the Allegedly Improper Disclosures. However, the statistical analysis that the Griffin Report conducts is not the proper test because it is not answering the right question. In particular, the Griffin Report performs a statistical test to “show the probability of observing the changes in handset upgrade rates due to random chance, *if one expected that handset upgrade rates did not change* after AT&T’s contact with equity analysts.”¹¹⁵ This analysis is flawed as its very premise that “one expected that handset upgrade rates did not change” is called into question by the fact that *upgrade rates were in fact declining* during this period.

104. There were many means by which analysts could have gotten information regarding the industry-wide declines in upgrade rates – including through surveying customers. The Griffin Report’s test cannot distinguish between whether analysts revised their forecasts because of the Allegedly Improper Disclosures or because of their receipt of and/or analysis of other information. The Griffin Report is testing whether the changes in upgrade rates are statistically different than zero, rather than whether the changes are statistically different than they would have been given that upgrade rates were in fact declining and absent the Allegedly

¹¹⁴ Griffin Report, ¶12, emphasis added.

¹¹⁵ Griffin Report, ¶47, emphasis added.

Improper Disclosures. The Griffin Report’s misleading use of the results of this test is akin to the “prosecutor’s fallacy,” a misinterpretation of probabilistic information.¹¹⁶

105. The Griffin Report’s statistical tests of analysts’ changes to their equipment revenue and total revenue estimates suffer from the same issues. Given that upgrade rates were in fact declining during this period, and that lower upgrade rates reduce equipment revenue and total revenue, it is unsurprising that analysts were reducing their equipment revenue and total revenue estimates given their reductions in upgrade rate estimates.

106. Furthermore, the Griffin Report’s finding that “only handset upgrade rates” were systematically adjusted downward appears to contradict the DiBucci Report’s claim that upgrade rates are correlated with churn.¹¹⁷ The Griffin Report finds that analysts did *not* systematically change their “postpaid churn” assumptions in any particular direction with their reductions in upgrade rates.¹¹⁸

I swear that the analysis presented above represents my independent, genuine opinion and that the statements are true to the best of my knowledge and belief, and if called as a witness, I could and would competently testify thereto. I also affirm that the information contained in

¹¹⁶ See, for example, *Reference Manual on Scientific Evidence* (Washington, D.C.: The National Academies Press, 3rd ed., 2011), p. 712:

“[T]he prosecutor’s fallacy involves the misinterpretation of probabilistic information. For example, in *People v. Collins*, the prosecutor argued that 1 in 3 girls have blonde hair, 1 in 10 girls have a pony tail, 1 in 10 automobiles are partly yellow, 1 in 4 men have a mustache, 1 in 10 black men have a beard, and 1 in 1000 cars have an interracial couple in the car. Multiplying these six probabilities together yields a 1 in 12 million joint probability of having all conditions present. Aside from being simply estimates and from assuming that the probabilities were independent of one another, the prosecutor made the statement that “The probability of the defendant matching on these six characteristics is 1 in 12 million,” thereby assuming that someone other than the defendant being guilty is the same 1 in 12 million. However, if translated into natural frequency terms, 1 out of every 12 million couples would have these six characteristics, and so assuming that there are 24 million couples, there would be a 1 in 2 chance that the Collises are innocent. The error results from confusing the probability of a positive test (having all six characteristics) among those with the disease (being guilty) and the probability of the disease (being guilty) among those with a positive test (having all six characteristics), that is, confusing the conditional probabilities—sensitivity and positive predictive value.” Freedman, David A., and David H. Kaye, “Reference Guide on Statistics,”

See, also, Leung, W. (2002), “The prosecutor’s fallacy a pitfall in interpreting probabilities in forensic evidence,” *Medicine, Science and the Law*, 42(1), 44-50.

¹¹⁷ DiBucci Report, ¶¶51-54.

¹¹⁸ Griffin Report, ¶42.

Appendix A, Appendix B, Appendix C, Appendix D, and Appendix E is true to the best of my knowledge and belief and hereby incorporate it into this Declaration.

Executed on May 3, 2022.



Lucy P. Allen